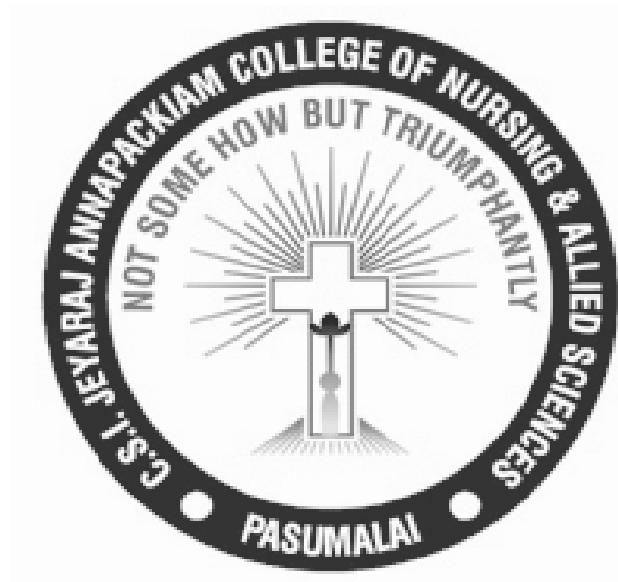


**A STUDY TO ASSESS THE RISK FACTORS WITH
KNOWLEDGE AND ATTITUDE AMONG ADULTS AND IN A
VIEW TO DEVELOP SIM ON CAD IN A SELECTED HOSPITAL,
MADURAI.**



**A DISSERTATION SUBMITTED TO
THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI,
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
MASTER OF SCIENCE IN NURSING.**

APRIL – 2012

**A STUDY TO ASSESS THE RISK FACTORS WITH
KNOWLEDGE AND ATTITUDE AMONG ADULTS AND IN A
VIEW TO DEVELOP SIM ON CAD IN A SELECTED HOSPITAL,
MADURAI.**

V. MAHALAKSHMI

**A DISSERTATION SUBMITTED TO
THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI,
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
MASTER OF SCIENCE IN NURSING.**

APRIL – 2012

ACKNOWLEDGEMENT

“The Lord is my shepherd I shall not want”

Psalm 23:1

‘Thank you’ is a word that takes just few second to utter, but it is expressed with gratitude from a humble and sincere heart.

I take this opportunity to put down my gratitude to the numerous people who have stood up my side in helping, guiding, and encouraging me in this accomplishment.

I praise and thank **God almighty** for his blessing and abundant grace that enriched me throughout the study.

It is my pleasure to express my heartfelt gratitude and sincere thanks to **Dr. Mrs. C. Jothi Sophia M.Sc., (N), Ph.D, Principal** , CSI Jeyaraj Annapackiam College of Nursing, for her expert guidance, encouragement and motivation and valuable suggestion not only in the study but also throughout the academic career which helped to lay down a strong foundation for this study.

I would like to express my sincere gratitude to **Prof. Mrs. Merlin Jeyapal, M.Sc (N), Ph.D, Vice Principal**, for constant support to this study.

I wish to express my deepest sense of gratitude to my esteemed guide **Prof. Mrs. G. JayaThangaselvi, M.Sc (N), Ph.D, Head of the Medical Surgical Nursing Department**, C. S. I. Jeyaraj Annapackiam College of Nursing, for her guidance, support, encouragement and patience corrections, keen interest in the conception, planning, and execution of the present study which has continuously motivated me for the successful completion of this dissertation.

I extend my sincere thanks to **panel of experts** for their valuable suggestions to conduct this study.

I express my sincere thanks to **Mrs. Anbu Roselin, M.Sc(N), RN.RM., Mrs. Jeya Jothi M.Sc(N), RN.RM., and Ms. Sobia Gnana Mary M.Sc(N), RN.RM., Lecturer** of CSI Jeyaraj Annapackiam College of Nursing for their individual guidance and valuable suggestions to conduct this study.

I extend my sincere thanks to the **Panel of judges** in the dissertation committee for their valuable suggestion throughout this study.

I extend my special thanks to the **Adult patients in Christian Mission Hospital, Madurai** who have participated in this study and made it successful one.

I would like to express my grateful thanks to **Mr. Mani, M.Sc., M.Phil, Statistician** for this excellent advice and support in analyzing and interpreting the data.

I am also grateful to **Mrs. Angelin Mannova**, Librarian, CSI Jeyaraj Annapackiam College of Nursing, for the help in availing the library facility.

I extend my sincere thanks to my beloved parents **Mr. M.Vaithilingam, VAO and Mrs. V. Balamani** for their prayers, support and encouragement throughout this Master programme.

I have no words to express my gratitude and thanks to my beloved brothers **Mr. V. Senthil Kumar**, and **Mr. V.Saravanakkumar B.E**, for their full support, prayers and encouragement throughout this study.

I extend my sincere thanks to my class mates **Glittering Gladiolus**, for their co-operation, prayers and help throughout this study.

ABSTRACT

Introduction

Cardiovascular diseases are the world's largest killers, claiming 17.1 million lives a year. Tobacco use, an unhealthy diet, physical inactivity and harmful use of alcohol increase the risk of cardiovascular diseases. Coronary artery disease which encompasses acute Myocardial infarction, angina pectoris, and atherosclerotic cardiovascular disease is the leading cause of death in the industrialized world.

Statement of the Problem

"A study to assess the risk factors with knowledge and attitude among adults and in a view to develop SIM on CAD in a selected hospital, Madurai".

Objectives

1. To screen the risk factors of CAD among the adult patients.
2. To assess the knowledge and attitude on CAD among adult patients.
3. To correlate risk factors of CAD with knowledge and attitude among adult patients.
4. To find the association between risk factors of CAD with selected demographic variables among adult patients.
5. To find the association between knowledge and attitude on CAD with selected demographic variables among adult patients.

Review of Literature

Review of literature was prepared on prevalence, knowledge, attitude and awareness regarding CAD.

Conceptual Framework

The conceptual framework was developed based on Health Belief Model by Becker and Maiman's (1975).

Methodology

Research design

The research design of the study was descriptive in nature.

Setting of the study

The study was conducted at Christian Mission Hospital in Madurai.

Sample size

The sample size for this study is 100 adult patients between the ages of 20-60 years.

Method of sampling

Samples for this study were selected through convenience sampling technique.

Results

Results shows that majority of adult patients had moderate risk (60%), adequate knowledge (62%) and favourable attitude (88%) on CAD. The obtained “r” value for correlation between risk factors and knowledge was -0.083 , which was negative correlation. The obtained “r” value for correlation between risk factors and attitude was -0.033 , which was negative correlation. The obtained “r” value for correlation between knowledge and attitude was 0.702 , which was highly positive.

Conclusion

The investigator believes that this study would be useful contribution for creating awareness to the adults regarding coronary artery disease. Nurses play a vital role in educating the peoples, especially adults in order to prevent the occurrence of CAD.

INDEX

CHAPTER NO.	CONTENTS	PAGE NO
I	INTRODUCTION	1- 8
	Significance and need for the study	5
	Statement of the Problem	6
	Objectives of the study	6
	Operational Definitions	7
	Assumptions	8
	Limitations	8
	Projected outcome	8
II	REVIEW OF LITERATURE	9-16
	Review related to Prevalence and risk factors of CAD	9
	Review related to Knowledge regarding CAD	11
	Review related to Attitude towards CAD	12
	Review related to Awareness on CAD.	13
	Conceptual framework	14
III	METHODOLOGY	17-23
	Research approach	17
	Research design	17
	Setting of the study	17
	Population	17
	Sample	18

	Sample size	18
	Method of sampling	18
	Criteria for sample selection	18
	Description of the instrument	18
	Scoring procedure	20
	Validity and reliability of the tool	21
	Data collection procedure	21
	Pilot study	22
	Protection of human rights	22
IV	DATA ANALYSIS AND INTERPRETATION	24-39
V	DISCUSSION	40-44
VI	SUMMARY AND RECOMMENDATIONS	45-49
	Summary	45
	Conclusion	47
	Implications	47
	Recommendations	48
	REFERENCES	
	APPENDIX	

LIST OF TABLES

Table No	Title	Page No
1	Distribution of adult patients based on the demographic variables	24
2	Distribution of adult patients based on the clinical profile	26
3	Correlation between Risk factors and Knowledge of adult patients on CAD.	31
4	Correlation between Risk factors and Attitude of adult patients on CAD.	32
5	Correlation between Knowledge and attitude of adult patients on CAD.	33
6	Association of Risk factors with the selected demographic variables.	34
7	Association of Knowledge with the selected demographic variables.	36
8	Association of Attitude with the selected demographic variables.	38

LIST OF FIGURES

Figure No	Title	Page No
1	Conceptual framework	16
2	Level of Risk factors among adult patients on CAD.	28
3	Level of Knowledge among adult patients on CAD.	29
4	Level of Attitude among adult patients on CAD.	30

LIST OF APPENDICES

Appendix No.	Title
1	Letter seeking permission for content validity
2	Letter seeking permission to conduct pilot study
3	Letter seeking permission for research study in the Christian Mission Hospital, Madurai.
4	List of experts for content validity of the tool
5	Structured Questionnaire (English version)
6	Structured Questionnaire (Tamil version)
7	Scoring Key
8	Self instructional module on CAD.

LIST OF ABBREVIATIONS

CAD	:	Coronary Artery Disease
SIM	:	Self Instructional Module
WHO	:	World Health Organization
BMI	:	Body Mass Index

REFERENCES

BOOKS

- Ansari& Kaur (2007), *Medical Surgical Nursing*, (1st ed.) Jalandhar, Vikas & company Medical publishers. (780- 787)
- Basavanthappa, B. (2007), *Nursing Research*, (2nd ed.) New Delhi, Jaypee brothers medical publishers. (442- 475)
- Barbara K. Timby et.al (2007), *Introductory Medical Surgical Nursing*, (9th ed.) Philadelphia, Lippincott Williams and Wilkins. (470- 477)
- Brunner & Suddarth's. (2008), *Medical Surgical Nursing*. (11th ed.) London, Lippincott Publications. (713-715)
- Christensen Kockrow (2011), *Foundations and Adult Health Nursing*, (6th ed.) Missouri, Mosby publications. (1556-1563)
- Davidson's (2006), *Principles & practice of Medicine*, (20th ed.) Newyork, Churchill Livingstone publications. (581- 601)
- Donna D. Ignatavicius (2010), *Medical Surgical Nursing*, (6th ed.) Missouri, Saunders publications. (847- 874)
- Fair, J. (2007). *Understanding and applying nursing research*. (3rd ed.) Philadelphia, F.A Davis Company. (233-251)
- Hungler.P & Polit (1995). *Nursing Research Principles and Methods*. (5th ed.) Philadelphia, J.B Lippincott Company. (69-77)
- Joyce M. Black (2009), *Medical Surgical Nursing Clinical Management for positive outcomes*, (8th ed.) Missouri, Mosby publications. (1410-1419)
- Lewis (2007), *Medical Surgical Nursing* (7th ed.) Missouri, Mosby Publications. (784-796)

- Linda S.Williams (2003), *Understanding Medical Surgical Nursing*, (2nd ed.) Philadelphia, F.A Davis Company. (271-275)
- Lippincott (2010), *Manual of Nursing Practice*, (9th ed.) Philadelphia, Lippincott Williams and Wilkins. (405- 411)
- Potter& Perry (2006), *Fundamentals of Nursing*, (6th ed.) Missouri, Mosby Publications. (3-4)
- Priscilla Lemone et.al (2008), *Medical Surgical Nursing*, (4th ed.) New Delhi, Dorling Kindersley Pvt.Ltd. (960-969)
- Richard Hatchett et.al (2007), *Cardiac Nursing*, (2nd ed.) Missouri, Churchill Livingstone publications. (209-267)
- Susan L.Woods et.al (2007), *Cardiac Nursing*, (3rd ed.) Philadelphia, J.B Lippincott Company. (461-553)
- Thomas E.Andreoli et.al (2001), *Essentials of Medicine*, (5th ed.) Philadelphia, WB Saunders Company. (90-99)
- Vasan R. Sudha Seshathri , *Text book of Medicine*, (1st ed.) Chennai, Orient Longman Ltd. (695-725)
- Wilma J. Phipps et .al (2001), *Medical Surgical Nursing*, (7th ed.) New Delhi, BI publications. (439-445)

JOURNALS

- Achari. V et.al (2004), Association of modifiable risk factors among patients with Coronary artery disease – a retrospective analysis. *Journal of the Association of Physicians in India.* 2 (52) 103-108
- Amy J. Barton (2006), Cardiovascular risk in Hispanic and Non-Hispanic preschoolers 55 (3) 172-179
- Aparna Kuna et.al (2010), Preventing Cardiovascular Disease through a healthy diet and lifestyle, *Health action* 17-23
- Ashvaid T.F et.al (2004), Health status of Indian Population- current scenario. *Journal of the Association of Physicians in India.* 5 (52) 359-61
- Bharthi .BB et.al (2003), A tertiary care hospital based study of conventional risk factors including lipid profile in proven coronary artery disease, *Indian heart journal* 55 (3) 234-40
- Deepa.R et.al (2002), Diabetes and risk factors for Coronary artery disease. *Current Science.* 83 (12) 47-55
- Diwedi.S et.al (2000), Coronary artery disease in young: Heredofamilial or faulty lifestyle or both. *Indian Academy of Clinical Medicine.*1 (3) 222-229.
- Gupta. R (2003), Prevalence of coronary artery disease and risk factors in an Urban Indian Population, *Indian heart journal.* 54(1) 59-69
- Hannele Lukkarinen et.al (2006), Treatments of Coronary artery disease improve quality of life in the long term, *Nursing Research*, 55(1) 26-33
- Kirkland .SA et.al (2001), Knowledge and awareness of risk factors for cardiovascular disease among Canadians 55 to 74 years of age, *Canadian Medical Association Journal* 2 (1) 1-11

- Maria Pramila D' Costa (2009), A comparative study of risk status of CAD between technical and non-technical employees, *Nightingale Nursing Times* 5(1) 35-39
- Mohan. V et.al (2004), Risk factors for coronary artery disease in Indians. *JAPI* 52(2) 95-97
- Padmavathi .S (2002), Prevention of heart disease in India in 21st century. *Indian heart Journal*. 5(4) 99-102.
- Plach et.al (1996), Effect of a post discharge class on CAD knowledge and self reported health promoting behaviour, *The journal of acute and critical care* 25(5) 367-372
- Pradeepa . R et.al (2003), Socio economic status and dyslipidemia in a south Indian population, *National Med Journal of India*. 16(2) 73-78.
- Renuka . K (2009) , Study to assess the effect of the STP on modifiable risk factors of CAD among patients with hypertension, *Pondicherry Journal of Nursing* 1(3) 41-43.
- Shrivastava .S et.al (2003), Coronary calcium and Coronary artery disease: an Indian perspective, *Indian heart journal*. 55(4) 344-348
- Siva Nageswari .K et.al (2009), Role of Self Instructional Module in creating awareness about CAD, *Nightingale Nursing times* 5(1) 27-32
- Surinder Jaspal (2009), Relationship of perceived social support with Mental Health of CAD patient, *Nightingale Nursing Times* 5(4) 18-21
- Susan J. Appel et.al (2002), Racial and Socioeconomic Differences in Risk Factors for Cardiovascular disease among southern Rural Women, *Nursing Research* 51(3) 140-147

NET

- Narmatha .R et.al (2009) , *Knowledge gaps and Misconceptions about coronary heart disease* from <http://www.nicb.nlm.nih.gov>
- Department of Health and Human Services. *Healthy people 2010(2009), understanding and improving health and objectives for improving health.* from: <http://www.cdc.gov/nchs/hphome.htm>
- Forde OH et.al (2009), Risk factors for coronary heart disease related to the occurrence of myocardial infarction in first degree relatives from <http://www.ncbi.nlm.nih.gov/pubmed/848473>
- National Heart foundation of Australia and Cardiac society of Australia and Newzealand (2008), Reducing risk in heart disease from [http://www.heartfoundation.org.au/document/NHF/reducingrisk_heart disease.](http://www.heartfoundation.org.au/document/NHF/reducingrisk_heart%20disease)
- O' Akinoboboye et.al (2002) Trends in Coronary artery disease and associated risk factors in sub- Saharan Africans from <http://www.nature.com/jhh/journal/v17/n6/full/1001562a.html>
- O'Brien. K et.al (2003) Differentials in overweight and obesity among adults from <http://www.aihw.gov.au/publications/aus/bulletin11/bulletin11/pdf>.
- *Public health action plan to prevent heart disease and stroke* (2008), from http://www.cdc.gov/dhdsp/library/action_plan/index.htm
- Sheenu Jhawar (2003), *Risk factors for coronary heart disease : implications of gender* from [http:// cardiovascres.oxfordjournals.org/content/53/3/538.full](http://cardiovascres.oxfordjournals.org/content/53/3/538.full)
- Unal B et.al, (2007), *a validated comprehensive coronary heart disease model: overview and technical appendices* from <http://www.liv.ac.uk/PublicHealth/sc/bua/impact.html>

APPENDIX- I

From

V.Mahalakshmi,
II year M.Sc (N),
C.S.I. Jeyaraj Annapackiam College of Nursing,
Madurai.

To

Respected Madam,

**Sub: Requisition for opinions and suggestions of experts for establishing
content validity of research tool- Reg.,**

With due regards, I kindly bring to your knowledge that I am a post graduate student of the C.S.I. Jeyaraj Annapackiam College of Nursing, Madurai. I have selected the below mentioned topic for dissertation to be submitted to the Tamilnadu Dr.M.G.R.Medical University, Chennai as a part of partial fulfillment of Master of Nursing Degree.

My dissertation topic is as follows:

**“ A study to assess the risk factors with knowledge and attitude among adults
and in a view to develop SIM on CAD in a selected hospital, Madurai.**

With regards I humbly request you to validate my study instruments. I will be grateful if you do this favor to me as early as possible.

Thanking you,

Date:

Yours Sincerely,

Place : Madurai

(V.Mahalakshmi)

APPENDIX - II

From

V.Mahalakshmi,
II year M.Sc (N) Student,
C.S.I. Jeyaraj Annapackiam College of Nursing,
Madurai.

To

Forwarded through

The Principal,
C.S.I. Jeyaraj Annapackiam College of Nursing,
Madurai.

Respected Sir,

Sub: Seeking permission to conduct the Pilot study.

With due regards, I am a post graduate student of the C.S.I. Jeyaraj Annapackiam College of Nursing, Madurai. I have selected the below mentioned topic for dissertation to be submitted to the Tamilnadu Dr.M.G.R.Medical University, Chennai as a part of partial fulfillment of Master of Nursing Degree.

My dissertation topic is as follows:

“ A study to assess the risk factors with knowledge and attitude among adults and in a view to develop SIM on CAD in a selected hospital, Madurai.

I would like to do this pilot study in your esteemed institution .Hence I request kindly grand me permission for the same.

Thanking you in anticipation,

Date:

Yours Sincerely,

Place: Madurai

(V.Mahalakshmi)

APPENDIX- III

From

V.Mahalakshmi,
II year M.Sc (N) Student,
C.S.I. Jeyaraj Annapakiyam College of Nursing,
Madurai.

To

Forwarded through

The Principal,
C.S.I. Jeyaraj Annapackiam College of Nursing,
Madurai.

Respected Sir,

Sub: Seeking permission to conduct the research study.

With due regards, I am a post graduate student of the C.S.I. Jeyaraj Annapackiam College of Nursing, Madurai. I have selected the below mentioned topic for dissertation to be submitted to the Tamilnadu Dr.M.G.R.Medical University, Chennai as a part of partial fulfillment of Master of Nursing Degree.

My dissertation topic is as follows:

“ A study to assess the risk factors with knowledge and attitude among adults and in a view to develop SIM on CAD in a selected hospital, Madurai.

I would like to conduct my study in your esteemed institution. Hence I request kindly grant me permission for the same.

Thanking you in anticipation,

Date:

Yours Sincerely,

Place: Madurai

(V.Mahalakshmi)

APPENDIX-IV

LIST OF EXPERTS FOR CONTENT VALIDITY OF TOOL

1. Dr. M. Sampath Kumar, MD., DM., F.I.C., (Sing)
Visiting Consultant & Interventional Cardiologist,
KMCH Cardiac Speciality Hospital,
Erode.
2. Dr. Helen Perdita, M.Sc(N), Ph.D.,
Principal, Apollo College Of Nursing
Madurai.
3. Dr. Vijaya Rani Prince, M.Sc(N), Ph.D.,
Principal, Bishop College Of Nursing
Dharapuram.
4. Mrs. G. Jaya Thangaselvi M.Sc(N), Ph.D.,
HOD of Medical Surgical Nursing Department,
CSI Jeyaraj Annapackiam College Of Nursing,
Madurai.
5. Mrs. Shanthi, M.Sc (N),
Professor, CSI Jeyaraj Annapackiam College Of Nursing
Madurai.
6. Mrs.Jancy Rachel, M.Sc(N), Ph.D.,
Professor, CSI Jeyaraj Annapackiam College Of Nursing
Madurai.
7. Mrs. Jasline, M.Sc(N),
Professor, Matha College Of Nursing
Manamadurai.

8. Mrs. Parameswari, M.Sc(N),
Professor, Christian College Of Nursing
Ambilikai.
9. Mrs. Anbu Roselin M.Sc(N),
Lecturer, CSI Jeyaraj Annapackiam College Of Nursing
Madurai.
10. Mrs. Jeya Jothi M.Sc(N),
Lecturer, CSI Jeyaraj Annapackiam College Of Nursing
Madurai.
11. Mrs. Sobia Gnana Mary M.Sc (N),
Lecturer, CSI Jeyaraj Annapackiam College Of Nursing
Madurai.

APPENDIX- V

STRUCTURED QUESTIONNAIRE

The interviewer is directed to ask questions one by one. According to the response given by the respondent, the interviewer marked as a number in the space given.

PART I –A: DEMOGRAPHIC PROFILE:

Code no: -----

- | | | | |
|-------------------------|---|---|--------------------------|
| (i) Age in years | : | 1) 20- 30
2) 31- 40
3) 41- 50
4) 51- 60 | <input type="checkbox"/> |
| (ii) Sex | : | 1) Male
2) Female | <input type="checkbox"/> |
| iii) Educational Status | : | 1) Educated
2) Uneducated | <input type="checkbox"/> |
| iv) Work pattern | : | 1) Sedentary worker
2) Moderate worker
3) Heavy worker | <input type="checkbox"/> |
| v) Income | : | 1) Above poverty line (>Rs.24, 000 / annum)
2) Below poverty line (<Rs.24, 000/ annum) | <input type="checkbox"/> |
| vi) Area of living | : | 1) Rural
2) Urban | <input type="checkbox"/> |

PART I – B: CLINICAL PROFILE:

1. BMI

- | | |
|---|--------------------------|
| 1) Underweight (15 – 18.4)
2) Normal (18.5 – 22.9)
3) Over weight (23- 27.5)
4) Obese (27.6- 40) | <input type="checkbox"/> |
|---|--------------------------|

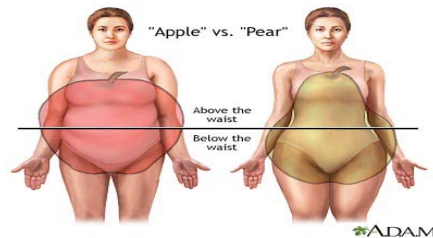
2. Waist- hip ratio

- In men:
1. Low risk (< 0.95)
 2. Moderate risk ($0.96 - 1$)
 3. High risk (> 1)

- In women:
1. Low risk (< 0.80)
 2. Moderate risk ($0.81 - 0.85$)
 3. High risk (> 0.85)

3. Type of obesity

1. Central obesity
2. Peripheral obesity
3. Non obese



4. Blood pressure

1. Normal ($90/60 - 119/79$ mmHg)
2. Pre hypertension ($120/80 - 139/89$ mmHg)
3. Hypertension ($> 140/90$ mmHg)

PART II: RISK PROFILE

I. NON-MODIFIABLE RISK FACTORS

*1. Is there any family history of heart diseases?

- 1) Yes 2) No

*2. Known history of DM

- 1) Yes 2) No

*3. Known history of hypertension

- 1) Yes 2) No

*4. If female,

(i) Have you attained menopause?

- 1) Yes 2) No

II.MODIFIABLE RISK FACTORS

A. Personal habits

*5. Are you a smoker?

1) Yes

2) No

☐

*6. Are you an alcoholic?

1) Yes

2) No

☐

*7. Do you have the habit of tobacco chewing?

1) Yes

2) No

☐

B. Exercises

8. Are you doing exercises regularly?

1) Yes

2) No

☐

C. Stress

*9. Do you get stress quickly at work place?

1) Yes

2) No

☐

*10. Will you get tensed easily for simple reasons at home?

1) Yes

2) No

☐

D. Dietary pattern

*11. Do you have the habit of eating Non- Vegetarian?

1) Yes

2) No

☐

*12. Do you have the habit of eating fried foods?

1) Yes

2) No

☐

*13. Do you have the habit of eating tinned foods?

1) Yes

2) No

☐

*14. Are you using refined oil for cooking?

1) Yes

2) No

☐

PART- III: KNOWLEDGE QUESTIONNAIRE

INSTRUCTION: Kindly give your response to the questions in the space given.

1. What are the functions of the heart?

- 1) Control our body function
- 2) Pumping of blood
- 3) Control our mental function
- 4) Excretion of waste products

☐

2. What is coronary artery disease?

- 1) Stopping of the heart function
- 2) Deposition of the fat/ cholesterol in the coronary arteries
- 3) Dilatation of blood vessels
- 4) Collection of fluid in coronary arteries.

☐

3. Coronary artery disease is more common at which age group?

- 1) 18-20 2) 20- 30
- 3) 30-60 4) >60

☐

4. Which sex is more prone to get coronary artery disease?

- 1) Male 2) Female
- 3) Both 4) None of the above

☐

5. Who is at risk of coronary artery disease?

- 1) People who are smoker, obese and following sedentary life style
- 2) People living in high altitude, Vegetarian people
- 3) People using clothes, utensils are used by CAD patients
- 4) People taking Vitamin rich foods

☐

6. What are the symptoms of coronary artery disease?

- 1) Chest pain, Breathlessness, Giddiness
- 2) Sneezing, Diarrhea
- 3) Fever, loss of appetite
- 4) Itching, and burning sensation all over the body.

☐

7. The patient diagnosed with CAD perceives pain in,

- 1) Abdomen and legs
- 2) Chest which is radiating to shoulders and arms
- 3) Back pain
- 4) Joint pain

☐

8. What is the effect of smoking on blood vessel?

- 1) Decreases heart rate
- 2) Narrows the lumen of the blood vessel
- 3) Dilates the blood vessel
- 4) Decrease blood pressure

☐

9. How does excessive intake of alcohol lead to CAD?

- 1) It improves the heart function
- 2) Increases the blood circulation
- 3) Narrows the blood vessels of the heart
- 4) Dilates the blood vessels of the heart

☐

10. In the following items which type of diet is more dangerous for a CAD patient? ☐
- 1) Salad and fruits
 - 2) Green leafy vegetables with rice
 - 3) Fried dish, dried sea foods, pickle and pappad
 - 4) Cereals and grains
11. How does the exercise reduce the risk of coronary artery disease? ☐
- 1) Exercise will help in increased the amount of blood
 - 2) Exercise will avoid the excess accumulation of fat in the body
 - 3) Exercise will increase the workload of the heart
 - 4) Exercise will increase the body weight
12. What kind of activities should be restricted in heart patient? ☐
- 1) Activities above arm level (lifting heavy weight, pushing or pulling heavy objects)
 - 2) Activities like washing clothes, sweeping, and cooking
 - 3) All kind of activities
 - 4) Activities like playing cards, gardening
13. Which of the following is the better way of weight reduction? ☐
- 1) Strict dieting
 - 2) Heavy exercises
 - 3) Combination of prescribed diet and exercises
 - 4) Taking fast foods
14. How the obesity leads to coronary artery disease? ☐
- 1) Obesity will reduce the heart size
 - 2) In obese people fat will accumulate in the blood vessel
 - 3) Obesity will reduce the workload of the heart
 - 4) Obesity will increase the activities of daily living
15. What is the immediate management for the patient with chest pain? ☐
- 1) Taking cup of coffee / tea
 - 2) Get the medicines from the medical shop
 - 3) Immediately seeking the doctor.
 - 4) Applying ointment over the chest

PART – IV: ATTITUDE ON CORONARY ARTERY DISEASE

INSTRUCTIONS: Read the following statements carefully and put (√) in the given space.

S.NO	Attitude on Coronary Artery Disease	Agree	Uncertain	Disagree
1.*	coronary artery disease is a communicable disease			
2.	Males are more prone for coronary artery disease			
3.	Alcohol, and smoking will increase the risk of coronary artery disease			
4.*	Tobacco chewing can helps to reduce the risk of coronary artery disease.			
5.	Regular exercise can helps to prevent the occurrence of coronary artery disease.			
6.	Persons with coronary artery disease need to be a low fat diet.			
7.*	Dietary fiber will increase cholesterol levels			
8.*	Taking fried and refined fast food will reduce the body weight			
9*	Regular medications are not essential to control the coronary artery disease			
10	Annual health check up is very essential to reduce the risk of coronary artery disease.			

APPENDIX- VI

NeH fhzYf;fhd gbt;

gbt vz; :

Fwpg;G :

xd;wd;gpd; xd;whff; Nfs;tpfis thrpj;J kf;fs; jUk; gjpYf;F nfhLf;fg;
gl;Ls;s fl;l; jpy; FwpaplTk;

gFjp – I : m :

nghJthd tpquq;fs; :-

1) taJ

(tUlq;fspy;) : 1) 21 – 30
2) 31 – 40
3) 41 – 50
4) 51 – 60

☐

2) ghypdk; : 1) Mz;
2) ngz;

☐

3) fy;tp epiy : 1) gbj;jtH
2) gbf;fhjtH

☐

4) Ntiyj; jd;ik : 1) vspjhd Ntiy
2) eLj;jukhd Ntiy
3) fbdkhd Ntiy

☐

5) tUkhdk; : 1) tWikf;Nfhl;bw;F fPo; (>Rs.24, 000 / tUl;)
2) tWikf;Nfhl;bw;F Nky; (<Rs.24, 000 / tUl;)

☐

6) trpf;Fk; ,lk; : 1) fpuhkk;
2) efuk;

☐

gFjp – I: M: cly; epiy tpquq;fs;

1. clypd; fdtpfpjk;

1) Fiwthd vil (18.5f;F fPo;)
2) rupahd vil (18.5 – 25 tiu)

☐

- 3) mjpg vil (26 – 30 tiu)
 - 4) kpf mjpg vil (30f;F Nky;)
2. ,il kw;Wk; ,Lg;G Rw;wstpd; tpfpj; ;

- Mz;:
1. Fiwthd tpfpj; (< 0.95)
 2. rupahd tpfpj; (0.96- 1)
 3. mjpg tpfpj; (> 1)

- ngz;:
1. Fiwthd tpfpj; (<0.80)
 2. rupahd tpfpj; (0.81 – 0.85)
 3. mjpg tpfpj; (> 0.85)

3. cly;; gUkdpd; tifg;ghL

1. ikag;gFjpapy; mjpg vil
2. clypd; Rw;wstpy; mjpg vil
3. rupahd vil



4. ,uj;j mOj;jk;

1. rupahd ,uj;j mOj;jk; (90/60- 119/79mmHg)
2. caH ,uj;j mOj;jjpw;fhd Ke;ija epiy (120/80 – 139/ 89mmHg)
3. caH ,uj;j mOj;jk; (> 140/90 mmHg)

gFjp – II : fhuzpfspd; tpquq;fs;

Fwpg;G : xd;wd;gpd; xd;whff; Nfs;tpfis thrpj;J kf;fs; jUk;

gjpYf;F ☒ FwpapITk;

I.khw;w Kbahj fhuzpfs; :-

*1)cq;fs; guk;giuapy; ,ja Nehahy; ghjpg;fg;gl;ltHfs; ,Uf;fpd;whHfsh?

- 1) Mk;
- 2) ,y;iy

* 2) rHf;fiu Nehapdh; ghjpg;fg;gl;ltuh?

- 1) Mk;
- 2) ,y;iy

*3) ,uj;jf; nfhjpg;gpdhy; ghjpg;fg;gl;ltuh?

- 1) Mk;
- 2) ,y;iy

*4) ngz;zhf ,Ug;gpd;

☐

(i) khjtplha; Row;rp epd;W tpl;ljh

1) Mk;

2) ,y;iy

II. khw;wf; \$ba fhuzpfs;

1. Ra gof;ftof;fq;fs;

*5) ePq;fs; Gifg;gpbF;Fk; gof;fk; cs;stuh?

☐

1) Mk;

2) ,y;iy

*6) ePq;fs; kJghdk; mUe;Jk; gof;fk; cs;stuh?

☐

1) Mk;

2) ,y;iy

*7) ePq;fs; Gifapiy NghLk; gof;fk; cs;stuh?

☐

1) Mk;

2) ,y;iy

2.clw;gapw;rp;

#8) ePq;fs; clw;gapw;rp nra;Ak; gof;fk; cs;stuh?

☐

1) Mk;

2) ,y;iy

3.kd mOj;jk;:

*9) ePq;fs; Ntiy ghHf;Fk; ,lj;jpy; VjhtJ gpur;rid Vw;gl;lhy;
cldbahf kd cisr;ry; miltPHfsh?

☐

1) Mk;

2) ,y;iy

*10) ePq;fs; tPl;by; Vw;gLk; rpW gpur;ridfSf;F vspjhf Nfhgk;
miltPHfsh?

☐

1) Mk;

2) ,y;iy

4. czT Kiwfs;

*11) ePq;fs; ve;j tifahd czTf;F Kf;fpaj;Jtk; mspg;gPHfs;?

☐

1) irt czT

2) mirt czT

*12) ePq;fs; vz;izapy; nghupj;j czTfis rhg;gPLgtuh?

☐

1) Mk;

2) ,y;iy

*13) ePq;fs; gjg;gLj;jp lg;ghf;fspy; milj;J itf;fg;gl;l czTfis
cz;Zk; gof;fk; cs;stuh?

☐

1) Mk;

2) ,y;iy

*14) ePq;fs; rikaYf;F Rj;jpfupf;fg;gl;l vz;izia cgNahfg;gLj;JtPHfsh?

1) Mk;

2) ,y;iy

☐

gFip – III

,ja ehs Neha; qw;wpa mwpTf; \$Hikia mwpAk; gbtK; ;

Fwpg;G :ePq;fs; rupahff; Nfs;tpfis thrpj;J mjw;nfdf; nfhLf;fg;gl;l ,lj;jpy;
cq;fs; gjpy;fis FwpapITk;

1) ,jaj;jpd; nray;ghLfs; vd;d?

1) clk;gpd; nray;ghLfis fl;LgLj;Jjy;

2) ,uj;j Xl;l;ij rPuhf;Fjy;

3) kdepjy nray;ghLfis fl;Lg;gLj;Jjy;

4) fopTg;ngHUI;fis ntspNaw;Wjy;

☐

2) ,ja ehs Neha; vd;why; vd;d?

1) ,jaj;jpd; nray;ghLfs; epd;WtpLjy;

2) ,ja jkdpapy; nfhOg;G gbe;J tpLjy;

3) ,uj;j Foha;fs; tphptiljy;

4) ,ja jkdpfspy; ePH NfhHj;jy;

☐

3) ve;j tajpdUf;F ,ja ehs Neha; mjpfkhf tUfpwJ?

1) 10-20 taJ 2) 21-30 taJ

3) 31-60 taJ 4) 60 tajpw;F Nky;

☐

4) ve;j ghypdk; ,ja ehs Nehahy; mjpfkhfg; ghjpf;fg;gLfpd;wdH?

1) Mz; 2) ngz;

3) ,UghyUk; 4) ahUkpy;iy

☐

5) ,ja ehs Nehapw;fhD fhuzpfshy; ghjpf;fg;gLgtH ahH?

1) Giff;Fk; gof;fk;> cly; gUkd; kw;Wk; Fiwthd Ntiy nra;Ak;
gof;fk; cilatH

2) caukhd ,lq;fspy; trpg;gtH

3) irt czT cz;Zk; gof;fk; cilatH

4) itl;lcpd; rj;J epiwe;j czTfis cl;nfhS;gtH

☐

6) ,ja ehs Nehapd; mwpFwpfs; ahit?

1) neQ;R typ> %r;Rj;jpzwj;> jiy Rw;Wjy;

2) Jk;ky;> tapw;Wg; Nghf;F

3) fha;r;ry;> grpapd;ik

4) cly; KOtJk; mhpG;G kw;Wk; vhpr;ry;

☐

7) ,ja ehs Nehapdh; ghjpf;fg;gl;lth> ve;j gFjpapy; typia czHthHfs;?

1) tapW kw;Wk;> ,Lg;G

☐

2) neQ;R kw;Wk; Njhs;gl;il> iffspy; typ guTjy;

3) KJF typ

4) %l;L typ

8) Gifg;gof;fj;jpdhy; ,uj;jf;Foha;fspy; Vw;gLk; tpisTfs; vd;d?

1) ,jaj; Jbg;ig mjpfupf;fr; nra;jy;

☐

2) ,jaf; Foha;fis RUq;fr; nra;jy;

3) ,jaf; Foha;fis tphptilar; nra;jy;

4) ,uj;j mOj;jj;ij Fiwar; nra;jy;

9) kJg;gof;fj;jpdhy; ,uj;jf; Foha;fspy; Vw;gLk; tpisTfs; vd;d?

1) ,jaj;jpd; nray;ghLfis mjpfupf;fr; nra;jy;

☐

2) ,uj;j Xl;l;ij mjpfupf;fr; nra;jy;

3) ,jaf; Foha;fis RUq;fr; nra;jy;

4) ,ja ,uj;jf; Foha;fis tphptilar; nra;jy;

10) ve;j tifahd czTfs; ,ja ehs Nehapdhy; ghjpf;fg;gl;ltUf;F kpfTk; Mgj;jhdJ?

1) gof;fyit kw;Wk; goq;fs;

☐

2) gr;irf; fha;fwpfs; kw;Wk; fPiu

3) nghupj;j kPd;> cyHe;j fly; czTfs;> CWfha; kw;Wk; mg;gsk;

4) jhdpaq;fs; kw;Wk; jpid tiffs

11) clw;gapw;rp ,uj;j ehs Nehapw;fhd fhuzpfis vt;thW Fiwf;fpwJ?

1) clw;gapw;rp ,uj;jj;jpd; msit mjpfupf;fr; nra;fpwJ

☐

2) clw;gapw;rp clk;gpy; nfhOg;G Nrkp;fg;gLtij jLf;fpwJ

3) clw;gapw;rp ,jaj;jpd; Ntiyg;gSit mjpfhpf;fpwJ

4) clw;gapw;rp cly; vilia mjpfhpf;fr; nra;fpwJ

12) ve;j tifahd Ntiyfis ,ja Nehahy; ghjpf;fg;gl;ltHfs; nra;af;\$lhJ?

1) iffis NkNy J}f;fp nra;Ak; Ntiyfs; (vil mjpfKs;s nghUl;fis J}f;Fjy;> js;Sjy; ,Oj;jy;)

☐

2) Jzpfis Jitj;jy;> \$l;Ljy;> rikj;jy;> Nghd;w Ntiyfs;

3) midj;J tifahd NtiyfisAk;.

4) rPl;L tpisahLjy; kw;Wk; nrb tsHj;jy;

13) gpd;tUgdtw;Ws; viliaf; Fiwf;f ve;j topKiw rupahdJ?

☐

1) fbdkhf czTKiwfis Nkw;nfhS;Sjy;

2) fbdkhd clw;gapw;rp

3) rupahd czT kw;Wk; clw;gapw;rpfis gpd;gw;Wjy;

4) Jhpj czTfis vLj;Jf;nfhS;Sjy;

14) vt;thW mjpf vil ,ja ehs Neha; tuf; fhuzkhf mikfpd;wJ?

1) mjpf vil ,jaj;jpd; msitf; Fiwf;fpwJ

☐

2) mjpf vil cs;stHfspd; ,uj;jf; Foha;fspy; nfhOg;G

Nrkpf;fg;gLjy;

3) cly; gUkd; ,jaj;jpd; Ntiyg; gSit Fiwf;fpwJ.

4) cly; gUkd; Ntiyj;jpwid mjpfhpf;fr; nra;fpwJ

15) cq;fSf;F neQ;R typ Vw;gl;lhy; cldbahf vd;d nra;tPHfs;?

1) B my;yJ fhgp gUFjy;

2) kUe;Jf; filfsy; ,Ue;J khj;jpiufis thq;Fjy;

3) cldbahf kUj;Jtiu re;jpj;jy;

4) fspk;ig typAs;s ,lj;jpy; jITjy;



gFjp –IV : ,ja ehs Neha; gw;wpa jd;dwpT Nrhjid msTNfhy;

Fwpg;G : fPNo nfhLf;fgl;Ls;s thf;F %yj;ij ftdkhf gbj;J cq;fSila fUj;Jf;fis
nfhLf;fgl;Ls;s ,lj;jpy; ☒ FwpapITk;

tupir vz;	,ja ehs Neha; gw;wpa jd;dhHT	MNkhj;jpf;fpNw d;	rupahf njupatpy;iy	MNkhjpf;ftpy;iy
1*	,ja ehs Neha; xU njhw;W Neha;			
2	Mz;fs; ,ja ehs Nehapdhy; mjpfk ghjppg;gilfpwhHfs;			
3	kJg;gof;fk;> Gifg;gof;fk; cilatHfs; ,ja ehs Neha; tUtjw;fhd fhuzpfshy; mjpfkhf ghjpf;fg;gLfpd;wdH.			
4*	Gifapiy ,ja ehs Neha; tUtjw;fhd fhuzpia Fiwf;fpwJ			
5.	njhlHr;rpahd clw;gapw;rp ,jaehs Neha; tuhky; ghJfhf;fpd;wJ			
6	,ja ehs Nehapdhy; ghjpf;fg;gl;ltHfs; nfhOg;G Fiwthd czTfis vLj;Jf;nfhfs;s Ntz;Lk;			
7*	ehHr;rj;Jf;fs; czTg; nghUl;fs; nfhOg;gpd; msit mjpfupf;fpwJ			
8*	vz;izapy; nghupj;j kw;Wk; rPf;fpukhf rikf;Fk; czTg;nghUl;fs; clypd;			

	viliaf; Fiwf;fpwJ			
9*	,ja ehs Nehia fl;Lg;gLj;j njhlHe;J kUe;J khj;jpiufis cl;nfhs;s Njitapy;iy			
10	,ja ehs Neha; tUtjw;fhd fhuzpfis Fiwf;f tUle;NjhWk; eyg; gupNrhjid kpTk; mtrpak;			

APPENDIX- VII

KEY ON RISK FACTORS REGARDING CAD AMONG ADULT PATIENTS

- # - Positive health behaviour
* - Negative health behaviour

FOR EACH POSITIVE HEALTH BEHAVIOR

- Score of 0 was given for Yes
Score of 1 was given for No

FOR EACH NEGATIVE HEALTH BEHAVIOUR

- Score of 1 was given for Yes
Score of 0 was given for No

Total score is 14.

KEY ON KNOWLEDGE REGARDING CAD AMONG ADULT PATIENTS

Question number	Correct response
1	2
2	2
3	1
4	1
5	1
6	1
7	2
8	2
9	3
10	3

11	2
12	1
13	3
14	2
15	3

Each correct response carries 1 mark.

Total score is 15.

KEY ON ATTITUDE REGARDING CAD AMONG ADULT PATIENTS

*--- Negative questions

The Maximum score is 30.

FOR EACH NEGATIVE STATEMENT

Score of 1 was given for agree

Score of 2 was given for uncertain

Score of 3 was given for disagree

FOR EACH POSITIVE STATEMENT

Score of 1 was given for disagree

Score of 2 was given for uncertain

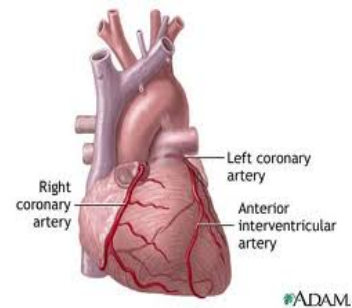
Score of 3 was given for agree.

APPENDIX VIII

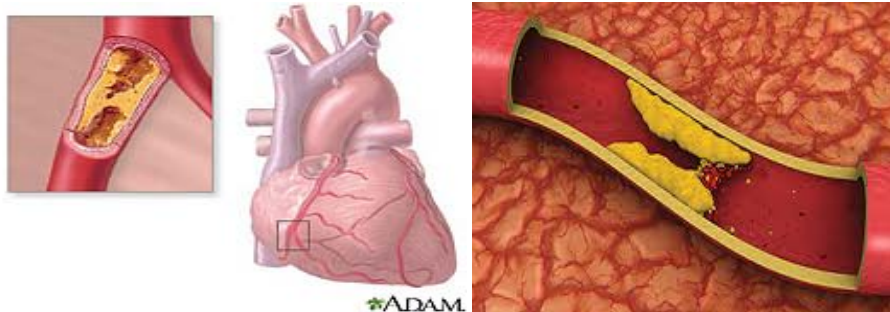
CORONARY ARTERY DISEASE

INTRODUCTION

Today among all the chronic illnesses, CAD is one of the major illnesses to be paid attention to as the incidence and prevalence is increasing. A report from WHO study group (2011) stated that cardiovascular diseases are the world's largest killers, claiming 17.1 million lives a year. By 2030, almost 23.6 million people will die from CVDs, mainly from heart disease and stroke.



CORONARY ARTERY DISEASE



In coronary artery disease the coronary arteries become narrowed or blocked by gradual build up of fat within the arterial wall which decreases blood flow to the heart muscles.

RISK FACTORS

1. NON MODIFIABLE RISK FACTORS

- Family history of coronary artery disease
- Increasing age (> 45 for males and > 55 for females)
- Gender (more often in men than premenopausal women)



2. MODIFIABLE RISK FACTORS:

- High blood cholesterol
- Cigarette smoking
- Tobacco use
- Alcoholism
- Hypertension
- Diabetes mellitus
- Lack of estrogen in women
- Physical inactivity
- Obesity



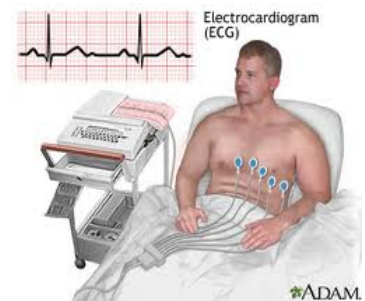
SIGNS AND SYMPTOMS

- Pain in the chest behind the upper or middle third of the sternum and may radiate to the neck, jaw, shoulders and inner aspects of the upper arm usually the left arm.
- Tightness or choking sensation
- Numbness in the arms,
- Shortness of breath
- Pallor
- Diaphoresis
- Dizziness
- Light headedness
- Nausea and vomiting



DIAGNOSTIC EVALUATION

- History collection
- Physical examination
- ECG
- Echocardiogram
- Nuclear scan
- Cardiac catheterization
- Coronary artery angiography



MANAGEMENT

- Medications
- Angioplasty
- Cardio pulmonary bypass graft.



PREVENTION

Dietary measures

Foods to be taken

- All green leafy vegetables
- Fresh fruits
- Cereal grains
- Legumes

Foods to be avoided

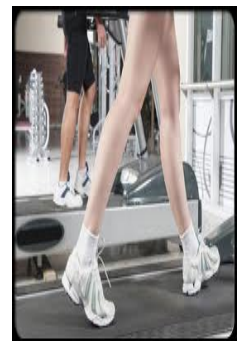
Fat rich diet like

- Fried chicken, Mutton, Egg yolk, Fried fish
- Curd
- Ghee
- Vanaspathi
- Coconut oil
- Tinned foods



Exercises

- Regular, moderate physical activity decreases cholesterol levels
- The goal for the average person is a total of 30 minutes of exercise, 3-4 times per week.
- Instruct the patients to stop any activity if they develop chest pain, unusual shortness of breath, dizziness, light headedness, nausea.
- Walking daily, increasing distance and time as prescribed
- Avoiding activities that tense muscles: isometric exercise, weight lifting and any activity that requires sudden burst of energy.
- Avoiding physical exercise immediately after a meal
- Alternating activity with rest periods.



Promoting cessation of tobacco use

- Cigarette smoking contributes to the development and severity of CAD.
- Tobacco causes detrimental vascular response and increases platelet adhesion, leading to a higher probability of thrombus formation.
- Cessation of tobacco use results in a lower rate of cardiac events.



Promoting cessation of alcohol

Instruct the patient to avoid intake of alcohol because it will increase the incidence of CAD and increase the body weight.



Managing Hypertension

- Hypertension can increase the work load of the heart.
- Instruct the patients to avoid salt rich foods like,
 - Pickle
 - Bakery items
 - Chips
 - Dry fish
 - Fast food



Controlling Diabetes Mellitus

- Hyperglycemia increases platelet aggregation and altered blood cell function which can lead to thrombus formation.
- Instruct the patients to avoid
 - Tubers,
 - Fruits like mango, jackfruit, banana, grapes, custard apple, and chiku
 - Dry fruits like dates, dry grapes
 - Fruit juices



- Instruct the patients to take
Fenugreek
Green leafy vegetables
Fiber rich foods
Small and frequent foods.
- Instruct the patient to do the exercises three days per week at the same time.

Managing stress

- Stress will increase the incidence of CAD
- So instruct the patient to undergone the relaxation techniques like,
- -Watching television
- -Reading books
- -Gardening
- -Hearing music
- -Meditation



DO'S and DON'T'S

- Avoiding any activity that produces chest pain, extreme dyspnea, or undue fatigue.
- Avoiding extremes of heat and cold and walking against the wind
- Losing weight , if indicated
- Stopping smoking and use of tobacco; avoid second hand smoke
- Developing heart- healthy eating patterns and avoiding large meals and hurrying while eating
- Eat a diet low in saturated fat, high in fiber, and if indicated lower in calories
- Carry nitroglycerin at all times.
- Avoid using medications or any over the counter substances without discussing with a health care provider.

COMPLICATIONS

- Acute pulmonary edema
- Heart failure
- Cardiogenic shock
- Dysrhythmias and cardiac arrest
- Pericardial effusion
- Myocardial rupture.



“KEEP IT SAFE”

CHAPTER –I

INTRODUCTION

“Coronary artery disease is a disease of all epochs”

William. P. Blocker

Cardiovascular diseases are the world’s largest killers, claiming 17.1 million lives a year. Tobacco use, an unhealthy diet, physical inactivity and harmful use of alcohol increase the risk of cardiovascular diseases.

In partnership with WHO, the World Heart Federation organizes World Heart Day (September 29) every year. This year's theme is **"One World, One Home, One Heart"**.

Today among all the chronic illnesses, CAD is one of the major illnesses to be paid attention to as the incidence and prevalence is increasing. This trend has been predicted to continue until 2020 (Murray & Lopez (1997) and WHO (2005).

CAD which encompasses Acute Myocardial infarction, Angina pectoris, and Atherosclerotic cardiovascular disease is the leading cause of death in the industrialized world.

The good news is that by following a healthy lifestyle and taking medicines as prescribed by doctor, can reduce or remove overall risk of developing coronary heart disease.

Mathers et. al., (2002) stated that in 2002, cardiovascular diseases caused 16.5 million deaths in the world and by 2020; they are estimated to cause 25 million deaths annually.

A report from WHO (2005) notified in Europe, cardiovascular diseases cause 4 million deaths a year, of which 2 million deaths are due exclusively to CAD.

Vartiainen et. al., (2003) stated that CAD is also the most common cause of death in Finland and a significant cause of disability among both men and women.

Based on National health survey in India, estimation of CAD incidence in 2001- 2002 were 48,700 events. In developed countries, CAD is the leading cause of death in both sexes.

Current estimates indicate that approximately 30 million peoples are suffering from CAD in India. A population survey (2001) suggests a prevalence rate in India of 10.9 % in urban and 5.5% in rural between the age group of 35 to 64 years.

Patil, VC. et.al (2011) done a cross sectional study on relation of anthropometric variables to coronary artery risk factors at Krishna Institute of Medical Sciences University in Maharashtra, India. A total of 995 railway employees, with 872 males and 123 females are participated. Compared to all other obesity indices waist to height ratio (WHtR) was most prevalent in both genders. High WHtR present in 699 (80.16%) males and 103 (83.73%) females. So compared to all other anthropometric variables, WHtR was statistically and significantly associated with a majority of coronary artery risk factors.

Anitha, N. (2007) conducted a comparative study to assess the knowledge and attitude on awareness of Myocardial Infarction among patients with first and consequent attack at K.G.Hospital in Coimbatore. A total of 20 patients with first attack and 20 patients with consequent attack of Myocardial Infarction were included. 65% patients who had first attack and 45% patients who had consequent attack had adequate knowledge. 35% of first attack and 55% of consequent attack had inadequate knowledge 80% patients who had first attack and 80% patients who had consequent attack had unfavorable attitude towards their disease condition.

CORONARY ARTERY DISEASE

In CAD the coronary arteries become narrowed or blocked by gradual build up of fat within the arterial wall (atherosclerosis) which decreases blood flow to the heart muscles. CAD is also known as Coronary Heart Disease, which includes Angina pectoris and Myocardial Infarction.

RISK FACTORS

NON MODIFIABLE RISK FACTORS

- Family history
- Increasing age (> 45 for males and > 55 for females)
- Gender (more often in men than premenopausal women)

MODIFIABLE RISK FACTORS

- High blood cholesterol
- Cigarette smoking
- Tobacco use
- Alcoholism
- Hypertension
- Diabetes mellitus
- Lack of estrogen in women
- Physical inactivity
- Obesity

SIGNS AND SYMPTOMS

- Pain in the chest behind the upper or middle third of the sternum and may radiate to the neck, jaw, shoulders and inner aspects of the upper arm usually the left arm.
- Tightness or choking sensation
- Numbness in the arms,
- Shortness of breath
- Pallor
- Diaphoresis
- Dizziness
- Nausea and vomiting

DIAGNOSTIC EVALUATION

- History collection
- Physical examination
- ECG
- Echocardiogram
- Nuclear scan
- Cardiac catheterization
- Coronary artery angiography

MANAGEMENT

- Medications
- Angioplasty
- Cardio pulmonary bypass graft.

PREVENTION

- Dietary measures
- Exercises
- Promoting cessation of Tobacco use and alcohol
- Managing Hypertension
- Controlling Diabetes Mellitus
- Behavior patterns

COMPLICATIONS

- Acute pulmonary edema
- Heart failure
- Cardiogenic shock
- Dysrhythmias and cardiac arrest
- Pericardial effusion
- Myocardial rupture.

SIGNIFICANCE AND NEED FOR THE STUDY

Among the many health predictions for the new millennium, the most alarming is that of cardio vascular disease. The prevalence of CAD worldwide will increase over the next 20 years as developing countries continue to adopt western lifestyle.

Despite efforts to decrease its incidence over last several decades, CAD is the prime cause of mortality in adults. The impact of coronary heart disease on the ability to perform activities of daily living is enormous.

276 patients among the urban population of Allahabad were surveyed to assess the prevalence rate of CAD detected by ECG. The findings revealed the prevalence rate was 29.66%, higher incidence was in the age group of 51-60 years, male and female ratio was 1.6:1. Overall mortality rate was 3.99%, 1.83% (angina) and 5.39% (MI). Mortality rate was higher in subjects having 2 or more risk factors and incidence of disease condition below 40 years of age found to be low.

Park J.E (1998) cited that according to WHO, CAD is a modern epidemic and it causes 25-30% of deaths in most of industrialized countries. The proportional mortality ratio has been reported as 25% of deaths in women and 30% of deaths in men.

The pattern of CAD in India has been reported to be, a) CAD appears a decade earlier compared with the age incidence in developed countries. The peak period is attained between 51-60 years. b) Males were affected more than female. C) Hypertension and diabetes mellitus account for 40% of outcomes d) heavy smoking.

Maria Pramila D' Costa (2009) conducted comparative study of risk status of CAD between the non- technical and technical employees of a selected factory in Mangalore. A total of 60 technical employees and 60 non technical employees were included. The level of risk status among the non-technical and technical employees was near normally distributed.

From the above findings of literature, the researcher realized the severity of the problem of CAD, and deficiency of knowledge among population. So it is very essential to teach the people to take care of and be responsible for their own health. And also, the researcher has seen many persons with CAD during her clinical experience.

The investigator believes that this study would be useful contribution for creating awareness to the adults regarding CAD. Nurses play a vital role in educating the peoples, especially adults in order to prevent the occurrence of CAD.

As prevention is better than cure, many health problems can be prevented at early stage through education. Based on this fact, the researcher felt the need to assess the risk factors and improve the knowledge and attitude of CADs among adults in order to prevent consequences/ complications of CAD.

STATEMENT OF THE PROBLEM

A study to assess the risk factors with knowledge and attitude among adults and in a view to develop SIM on CAD in a selected hospital, Madurai.

OBJECTIVES

1. To screen the risk factors of CAD among the adult patients.
2. To assess the knowledge and attitude on CAD among adult patients.
3. To correlate risk factors of CAD with knowledge and attitude among adult patients.
4. To find the association between risk factors of CAD with selected demographic variables among adult patients.
5. To find the association between knowledge and attitude on CAD with selected demographic variables among adult patients.

OPERATIONAL DEFINITIONS

Risk factors

In this study it refers that the factors including non-modifiable (age, sex, family history) and modifiable (smoking, alcohol, diabetes mellitus, hypertension, sedentary life style, obesity, stress) which cause a person or group of people to be vulnerable to CAD.

Knowledge

In this study it refers that the level of understanding by adults regarding CAD as measured by structured knowledge questionnaire.

Attitude

In this study it refers to the way of thinking, belief, and feeling regarding CAD by adults as expressed in the form of statements as assessed by 3 point Likert scale.

Coronary artery disease

In CAD the coronary arteries become narrowed or blocked by gradual build up of fat within the arterial wall (atherosclerosis) which decreases blood flow to the heart muscles. CAD is also known as Coronary Heart disease, which includes Angina pectoris and Myocardial infarction.

Adults

In this study it refers that all males and females of age between 20-60 years admitted in Christian mission hospital at Madurai - 2011.

SIM on CAD

In this study it refers to well planned information, can read and understand by them regarding definition, causes, clinical manifestations, diagnostic evaluation and management of CAD.

ASSUMPTIONS

1. Adults are more risk on CAD.
2. Adult's knowledge and attitude may vary with the selected demographic variables.
3. There is a relationship between demographic variables and risk factors contributing to CAD.
4. CAD is a serious health problem, which can be prevented to a certain extent by health education.

LIMITATIONS

The study is limited to,

1. Adult patients from Christian mission hospital at Madurai only.
2. Patients between the age group of 20-60 years.
3. Data collection period was only 6 weeks.

PROJECTED OUTCOME

The findings of the study will help to identify the coronary risk factors, level of knowledge and attitude among adults regarding CAD and to plan education program for them. The development of learning module can be used to instruct the adults, enabling them to improve their knowledge and create awareness on CAD.

CHAPTER – II

REVIEW OF LITERATURE

A review of literature provides the concept to continue for the contemplated research, an understanding of the status of the research in the problem area includes research approach, method, instrumentation, and analysis. The literature review is organized under the following headings:

Studies related to:

- Prevalence and risk factors of CAD
- Knowledge regarding CAD
- Attitude towards CAD
- Awareness on CAD.

STUDIES RELATED TO THE PREVALENCE OF CAD

Isang Iwot, (2009) conducted a descriptive cross sectional study on comparison of coronary artery risk factor prevalence among off shore and on shore workers in petroleum industry in Nigeria. 231 workers were included (121 on-shores and 110 off-shores). The data was collected by using an electronic questionnaire to explore life style factors: exercise, diet, and smoking. Anthropometric indices included body mass index, waist circumference and waist to hip ratio. Biochemical tests included lipid profile and fasting blood glucose. Onshore workers had increased waist circumference, increased rates of metabolic syndrome, diabetes and hypertension. Conversely the offshore workers had a higher BMI and lower levels of protective HDL. The prevalence of cardiovascular risk factors showed a mixed outcome, with on-shore employees being more sedentary, having a higher prevalence of truncal obesity, diabetes and hypertension.

Kokiwar, PR. et.al (2009) studied on Prevalence of coronary risk factors in a rural community of Andhra Pradesh. 924 subjects of 30 years and above were investigated using structured, pre-tested schedule. The prevalence of coronary risk factors ranged from 5.4 to 41.3%. Tobacco use, alcohol consumption, truncal obesity and sedentary life style were significantly prevalent among males. Whereas truncal obesity and hypertension among females.

Gupta, R. et.al (2007) have done a community based epidemiological study on prevalence of coronary risk factors in an urban Indian population, Jaipur. All adults ≥ 20 years age in the locality who were then invited for participation in the study. Of the 1400 eligible subjects, 1127 participated (response rate 80.5%, men 556, women 571). Risk factor measurements included smoking or tobacco use, body-mass index (BMI), waist:hip ratio (WHR) and body fat, and in 644 (56.6%) subjects (men 340, women 304) blood examination for fasting blood glucose and lipids. There was a significant prevalence of risk factors in both men and women respectively with smoking or tobacco use in 209 (37.6%) and 12 (2.2%), obesity (BMI ≥ 25 kg/m²) in 303 (54.5%) and 350 (61.3%), truncal obesity (high WHR) in 339 (61.0%) and 310 (54.30%), hypertension in 322 (57.9%) and 279 (48.9%), high total cholesterol ≥ 200 mg/dl in 111 (32.6%) and 120 (39.5%), low HDL cholesterol < 40 mg/dl in 103 (30.3%) and 83 (27.3%), high triglycerides ≥ 150 mg/dl in 146 (42.9%) and 132 (43.4%), metabolic syndrome in 166 (48.8%) and 137 (45.1%), and diabetes in 88 (25.9%) and 64 (21.1%) subjects. There is a significant prevalence of multiple cardiovascular risk factors in this population group.

Latheef, SA. Subramanyam, G. (2007) conducted a cross-sectional study regarding Prevalence of CAD and coronary risk factors in an urban population of Tirupati. A total of 1519 subjects (539 males and 980 females) 20 years of age formed the sample of the study. Demographic (age, sex, occupation, education and income), behavioral (smoking), anthropometric (height, weight, waist and hip circumferences) and physiological (blood pressure) parameters were noted and recorded and biochemical parameters (serum glucose, total cholesterol, triglycerides, HDL cholesterol levels) were assayed. The overall prevalence in the study population was 12.63 (192 cases). In males it was 6.86 (37 cases) and in females 15.81 (155 cases). The major risk factors in this population were central obesity 1003 (66%) [Male 320 (59.4%) and females 683 (41.12%)], low HDL cholesterol 709 (46.67%) [Male 284 (52.69%) and females 425 (43.36%)], obesity 588 (38.07%) [males 187 (34.32%) and females 403 (41.12%)], high triglyceride levels (≥ 150 mg/dl) 444 (29.22%) [(males 173 (32.09%) and females 272 (27.75%)], high cholesterol levels (≥ 200 mg/dl) [(males 127 (23.56%) and females 278 (28.36%)] and hypertension 396 (26.06) [(males 149 (27.64%) and females 247 (25.20%)]. Association of age, high LDL cholesterol in males and triglycerides in females with CAD shows the importance of these risk factors in this population.

Coronary heart disease statistics from 2004 indicate that the total number of adults in the United States living with CAD at that time was 24.7 million. This represented 11.5 percent of the population. Approximately 4.4 million people were hospitalized because of CAD, with the average hospital stay lasting 4.6 days.

Gupta R (1997), studied on Prevalence and determinants of coronary heart disease in a rural population of Rajasthan, India. A physician-administered questionnaire, physical examination, and electrocardiogram (ECG) were performed on 3148 adults ≥ 20 years of age (1982 males, 1166 females). Fasting blood samples for determination of lipids were obtained from 202 males and 98 females. Prevalence of coronary risk factors--smoking, hypertension, sedentary life-style, obesity, and hypercholesterolemia--was determined. smoking was present in 51% males and 5% females, hypertension ($\geq 140/90$ mmHg) in 24% males and 17% females, hypercholesterolemia (> 200 mg/dl) in 22%, diabetes history in 0.2%, and irregular physical activity or sedentary habits in 85%. Smoking, hypertension, and sedentary lifestyle have high prevalence.

STUDIES RELATED TO KNOWLEDGE REGARDING CAD

Aysha, et.al (2005) have done a cross sectional study on Knowledge of Coronary Artery Disease (CAD) risk factors and Coronary Intervention among University Students in Karachi East. Questionnaires were distributed to 200 adult students of different non-medical universities and colleges. The mean age of students was $20 \text{ yrs} \pm 2.2$ years and 62% were females. Sixty percent students thought that heart diseases are the number one cause of death in our population. Twenty five percent students graded smoking as the top most risk factor for CAD. Knowledge of fifty percent students was based on personal and family experience of heart disease.

Sinu Philip, (2005) conducted a study on assess the knowledge level regarding risk factors contributing to CAD. The study was conducted in preventive cardiology centre of corporation hospital, in Bangalore among municipal workers. Study findings revealed that overall knowledge score is 28.08%. The analysis showing that the municipal workers are not having adequate knowledge about CAD.

Kirkland, et.al (2002) has done a descriptive cross sectional study to determine knowledge and awareness of risk factors for cardio vascular disease among Canadians. 4976 peoples 55 to 74 years of age. Knowledge and awareness regarding cardio vascular disease risk factors were determined from the survey question. Result showed that smoking and stress were mentioned a major cause of heart disease by the greatest proportions of the participants (41% and 44% respectively).

Plach, et.al (1996) studied the effect of a post discharge education class on CAD knowledge and self reported health promoting behaviours. The study was conducted in mid western community hospital using descriptive, two group post test survey method, among 114 patients who had experienced cardiac catheterization , of which 53 attended a post discharge coronary artery education class and 61 did not attend the class. The tool used for data collection was an interview schedule. The results of the study revealed that knowledge of CAD and its risk factor was significantly high among the subjects who attended the post-discharge class and they presented with better health promoting behaviours.

STUDIES RELATED TO ATTITUDE TOWARDS CAD

Narmatha, R. et.al (2009) conducted a study on assess levels of CHD-related knowledge among South Asians; assess attitudes about the preventability of CHD; and identify if there are demographic factors associated with knowledge and attitudes. Eighty-one percent of respondents had one or more CHD risk factors. Most participants (89%) said they knew little or nothing about CHD. Stress was the most frequently mentioned risk factor (44%). Few mentioned controlling blood pressure (11%), cholesterol (10%), and diabetes (5%) for prevention. Fifty-three percent said that heart attacks are not preventable.

Surinder Jaspal, (2007) have done a study on relationship of perceived social support with mental health of CAD patient in Punjab. The sample consisted of 300 subjects: 150 CAD patients and 150 normal controls in the age group of 30 – 55 years. The result revealed positive correlation between perceived social support and general well being for both CAD and normal controls.

MC Dormott, M. et.al (2003) studied on knowledge and attitude regarding cardiovascular disease risk and prevention in patient with coronary and peripheral artery disease. In this study they had compared perceptions regarding risk of cardio

vascular events and benefits of cardio vascular disease risk between patient with CAD, patients with peripheral vascular disease and patient with atherosclerosis (no disease). 348 members were included in this study. Study results reported that in all group of risk of Myocardial infarction, stroke and death were higher for a patient with CAD than for a patient with PAD.

Azhar Farooqia, et.al (2000) have done a focus group study on attitudes to lifestyle risk factors for coronary heart disease amongst South Asians in Leicester. The sample consisted of South Asians aged over 40 years. Barriers to improving lifestyle with respect to diet and exercise were identified; these included lack of information (e.g. of how to cook traditional Indian food more healthily) and cultural barriers, such as lack of women-only exercise facilities. Participants perceived stress as an important cause of CHD.

STUDIES RELATED TO AWARENESS ON CAD

Siva Nageswari,K. (2009) conducted a study on role of self instructional module in creating awareness about CAD among Urban community adults. 80 samples were included. The mean score of subjects obtained for overall level of knowledge in pre-test was 30.71 and for post – test were 51.40. So there is significant difference in the knowledge of adults regarding risk factors of CAD before and after administration of self instructional module. This indicates that the self-instructional module, which was administered by the investigator to the subjects, was effective, since the subjects had significant improvement in knowledge scores on CAD.

Wanda K. Jones et.al (2000) studied on awareness, perception and knowledge of heart disease risk and prevention among women in the United States. The sample consisted of One thousand respondents aged 25 years or older (65.8% white, 13% African American, and 12.6% Hispanic). Only 8% of the respondents identified heart disease and stroke as their greatest health concerns; less than 33% identified heart disease as the leading cause of death. Women aged 25 to 44 years indicated they were not well informed about heart disease. Although 90% of the women reported that they would like to discuss heart disease or risk reduction with their physicians.

CONCEPTUAL FRAMEWORK

The conceptual framework selected for the study is based on Health Belief Model developed by Becker and Maiman's (1975). The model is to be used as a guide to addresses the relationship between a person's belief and behaviour. This model emphasize that each person has unique ideas, convictions and attitudes about health and illness. Use of this model helps the nurses to understand the factors influencing client's perception, beliefs, behaviour and to plan the most effective care. The three major concepts of this model are:

1. Individual perceptions
2. Modifying factors
3. Likelihood of action

INDIVIDUAL PERCEPTIONS

The first component of this model involves the individual's perception of susceptibility to an illness.

In this study it describes the perception of adult patients regarding Risk factors of CAD including Non- modifiable (Age, Sex, Family history) and Modifiable (Alcohol, Smoking, tobacco, DM, Hypertension, Obesity, High blood cholesterol), knowledge on CAD, was measured by using structured questionnaire and attitude towards CAD was measured by using 3 point Likert scale.

MODIFYING FACTORS

The second component is the individual's perception of seriousness of the illness. This perception is influenced and modified by demographic and socio psychological variables, perceived threats of the illness, and cues to action (mass media campaigns, advice from family, friends and medical professionals).

In this study, Modifying factors include demographic variables of adult patients such as age, sex, education, occupation, income, area of living. The aspects of Self Instructional Module (cue to action) are definition, causes, signs and symptoms, diagnostic evaluation, and management of CAD.

LIKELIHOOD OF ACTION

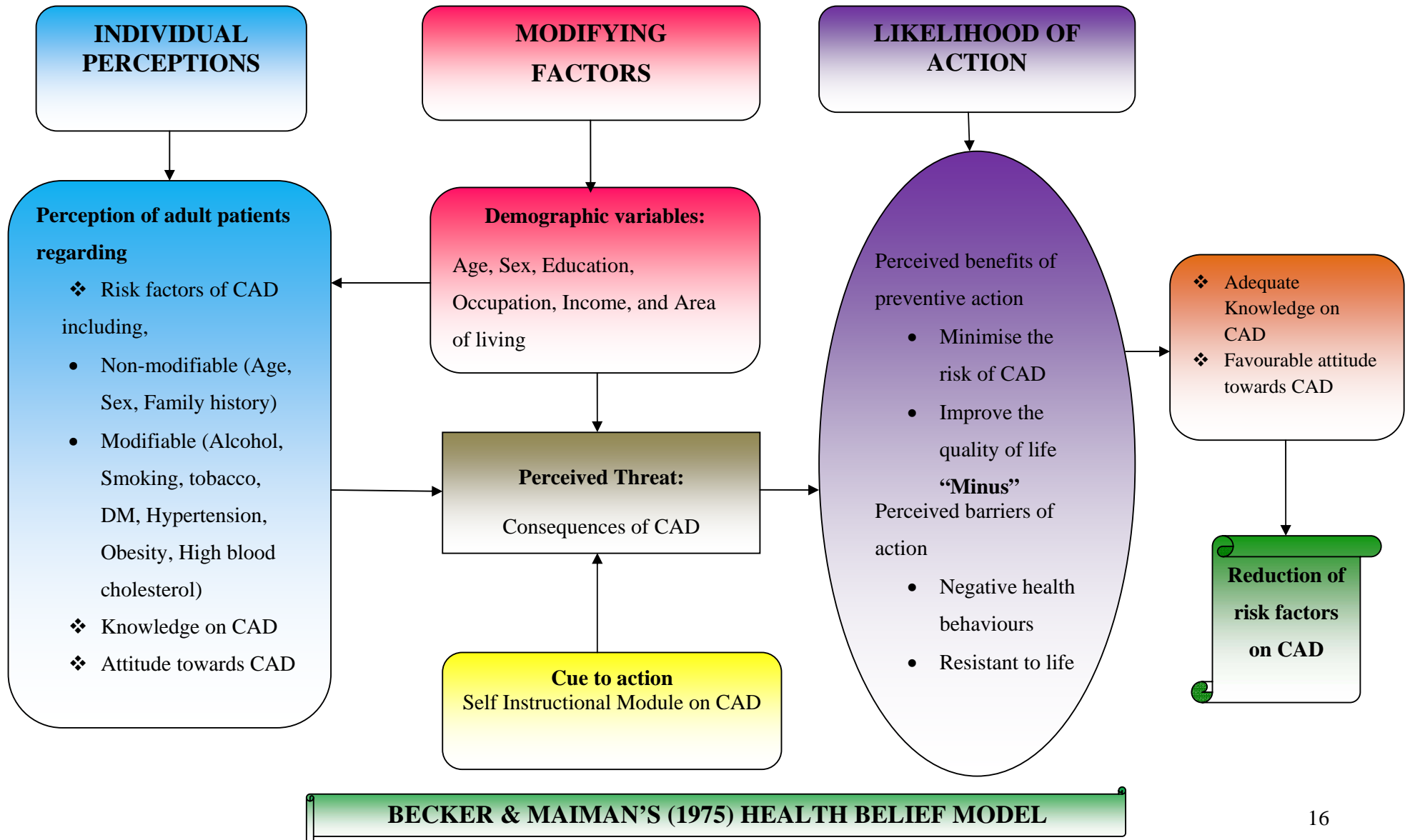
The third component is the likelihood that a person will take preventive action, results from the person's perception of the benefits of and barriers to taking action. Preventive action may include lifestyle changes, increased participation in recommended medical therapies or a search for medical advice or treatment.

In this study, Likelihood of action was having adequate knowledge and favourable attitude towards CAD. It helps to reduce the risk factors of CAD.

CONCLUSION

Health beliefs are a person's ideas and attitudes about health and illness. It may be based on factual information or misinformation, common sense, or myths and influence health behaviour either positively or negatively. So the investigator believes that implementation of positive health behaviour dependent on an individual's awareness of how to live a healthy life and the person's ability and willingness to carry out such behaviours in a healthy lifestyle.

FIGURE: 1 CONCEPTUAL FRAMEWORK



CHAPTER-III

METHODOLOGY

Research methodology of this study includes the research approach, research design, and setting of the study, population, sample, sample size, method of sampling, criteria for sample selection and description of the tool, validity, reliability, method of data collection, pilot study, and protection of human subjects.

RESEARCH APPROACH

The descriptive approach was adopted for this study in order to achieve desired outcome/ goal.

RESEARCH DESIGN

The research design selected for this study is descriptive correlational design in which examining the relationship between two or more variables without manipulation or control.

SETTING OF THE STUDY

The study was conducted in Christian Mission Hospital, Madurai which is 6 kilometers away from the C.S.I Jayaraj Annapackiam College of Nursing. It is a 350 bedded multi speciality hospital and has health facilities such as casualty, neonatal intensive care unit, intensive coronary care unit, medical and surgical wards, obstetrics and gynecology ward, pediatric, and geriatric ward. Christian Mission Hospital serves to all economic status in the society.

POPULATION

In the present study all the adult patients between the ages of 20-60 years were the target populations.

The Accessible population includes all the adults between the ages of 20- 60 years who are admitted in Christian Mission Hospital, Madurai.

SAMPLE

The samples for the present study were the adult patients between 20-60 years admitted at Christian Mission Hospital, who fulfills the inclusion criteria.

SAMPLE SIZE

The sample size for this study is 100 adult patients between the ages of 20-60 years.

METHOD OF SAMPLING

Samples for this study were selected through convenience sampling technique. It is classified under non-probability sampling in which the subjects are selected based on their convenient accessibility and proximity to the researcher rather than following a specified selection process.

CRITERIA FOR SAMPLE SELECTION

Inclusion criteria

Adult patients who were

- between 20- 60 years of age
- both male and female
- willing to participate in the study
- able to understand Tamil / English
- available at the time of data collection.

Exclusion criteria

Adult patients with

- known case of CAD
- other heart diseases

DESCRIPTION OF THE INSTRUMENT

The instrument was developed by the investigator with the guidance of experts. The structured questionnaire was prepared to assess risk factors, knowledge and 3 point Likert scale was prepared to assess the attitude among adult patients on CAD.

Part I- A: Demographic data

B: Clinical profile

Part II: Structured questionnaire to assess the risk factors among adult patients on CAD.

Part III: Structured questionnaire to assess the knowledge among adult patients on CAD.

Part IV: 3 Point Likert scale to assess the attitude among adult patients on CAD.

Part I-A:

It contains demographic variables such as age, sex, educational status, occupation, income, and area of living.

Part I-B:

It consists of clinical profile such as BMI, waist-hip ratio, type of obesity and blood pressure.

Part II:

It includes structured risk profile with 14 dichotomous questions. Each question has 2 responses regarding risk factors of CAD on the basis of Non-modifiable and Modifiable risk factors.

Part III:

It consists of structured knowledge questionnaire with 15 multiple choice questions. Each question has 4 responses with one right answer on knowledge among adult patients regarding CAD on the basis of introduction, causes, symptoms, prevention, and treatment of CAD.

Part IV:

It contains five positive and five negative statements to assess the attitude among adult patients on CAD. The scale used in this study is 3 Point Likert scale. The options included were agree, uncertain and disagree.

SCORING PROCEDURE

Part II:

The dichotomous questions have two responses (Yes or No). A score of one was given for Yes and score of zero was given for No for each negative health behavior. A score of one was given for No and score of zero was given for Yes for each positive health behavior. Total score was 14. The total score was ranged as follows:

1-5	- Low risk of developing CAD
6-10	- Moderate risk of developing CAD
11- 14	- High risk of developing CAD

Part III:

The multiple choice questions have four responses each with one right answer, which is allotted a score of one and every wrong answer was given a score of zero. The total attainable score of knowledge questionnaire was 15. The total score was ranged as follows:

1-5	- Inadequate knowledge
6- 10	- Moderately adequate knowledge
11-15	- Adequate knowledge

Part IV:

It consists of 3 Point Likert scale of ten statements to assess the attitude among adult patients on CAD. The options included were agree, uncertain, and disagree. The maximum score for measuring the attitude of adult patients was 30. A score of one was given for disagree, score of two was given for uncertain, score of three was given for agree for each positive statements. A score of one was given for agree, score of two was given for uncertain, score of three was given for disagree for each negative statements.

Attitude score was interpreted as follows:

1-15	- Unfavourable
16-30	- Favourable

VALIDITY AND RELIABILITY OF THE TOOL

The tool used for the study was validated by eleven experts. The tool was evaluated for appropriateness, adequacy, relevance, completeness and comprehensiveness. Comments and suggestions were invited and appropriate modifications were made accordingly and the tool was refined and finalized after establishing the validity.

The reliability of the tool was elicited by test- retest method. The Karl Pearson's co-efficient of correlation was computed and the reliability was found to be 0.94 for the risk factors, 0.96 for the knowledge and 0.96 for the attitude, which was highly, positively correlated. The tool was found to be reliable.

The learning module on CAD was assessed by experts for its appropriateness, organization of content, language and comprehensiveness.

DATA COLLECTION PROCEDURE

The data was collected among adult patients who have admitted in Christian Mission Hospital, Madurai. Written permission was sought and obtained from the authorities concerned. The period of data collection was 6 weeks. 100 adult patients were selected as per above mentioned criteria with prior informed verbal consent to participate in the study. Initially good rapport was maintained with the adult patients and the purpose of the study was explained to them. During the data collection period privacy was maintained and the subjects were made comfortable. Demographic profile and clinical profile was collected by the investigator through interview method. Then the structured questionnaire was given to assess the knowledge and attitude among adult patients on CAD. Immediately self instructional module was given to the adult patients and investigator expressed her gratitude for their cooperation.

DATA COLLECTION SCHEDULE

Day	Ward	No. of clients
Monday	Medical ward	4
Tuesday	Surgical ward	4
Wednesday	Obsteterics & gynecology ward	4
Thursday	Medical ward	4
Friday	Surgical ward	4
Saturday	Obsteterics & gynecology ward	4

No. of patient's per week: 24

PILOT STUDY

The pilot study was conducted among ten adult patients in Saravana Hospital, Madurai after obtaining formal permission from authorities.

Structured questionnaire which consists of 14 questions was used to assess the risk factors and 15 questions was used for data collection to assess the existing knowledge and Likert 3 Point attitude scale to assess the attitude among adult patients on CAD. Self instructional module was administered. This time taken to complete the tool was found to be satisfactory in terms of simplicity and clarity. Based on the time taken for collecting the data, arbitrary decision was taken to keep the sample size to 100.

PROTECTION OF HUMAN RIGHTS

The proposed study was conducted after the approval of dissertation committee of the college. Permission was obtained from the medical director of Christian Mission Hospital, Madurai. Each individual client was informed about the purpose of the study and confidentiality was promised and ensured. Informed consent was obtained from each individual. The patient had the freedom to leave the study at his/ her wish without assigning any reason. Thus the ethical issues were ensured in this study.

CHAPTER – IV

ANALYSIS AND INTERPRETATION

This chapter deals with the description of the sample analysis and interpretation of the data collected among adult patients to interpret the risk factors, knowledge and attitude of CAD. The data collected were tabulated, analyzed and presented based on the objectives.

The findings were organized and presented in the following sections:

1. Distribution of adult patients based on the demographic variables.
2. Distribution of adult patients based on the clinical profile.
3. Level of Risk factors among adult patients on CAD.
4. Level of Knowledge among adult patients on CAD.
5. Level of Attitude among adult patients on CAD.
6. Correlation between Risk factors and Knowledge of adult patients on CAD.
7. Correlation between Risk factors and Attitude of adult patients on CAD.
8. Correlation between Knowledge and attitude of adult patients on CAD.
9. Association of Risk factors with the selected demographic variables.
10. Association of Knowledge with the selected demographic variables.
11. Association of Attitude with the selected demographic variables.

TABLE 1a**DISTRIBUTION OF ADULT PATIENTS BASED ON THE DEMOGRAPHIC
VARIABLES****N= 100**

S.No	Demographic Variables	No	%
1.	Age in Years		
	21-30	30	30
	31-40	27	27
	41-50	24	24
	51-60	19	19
2.	Sex		
	Male	48	48
	Female	52	52
3.	Educational status		
	Educated	91	91
	Uneducated	9	9

Table 1a shows that among 100 adult patients, majority 30 (30%) of adult patients were between 20-30 years. Regarding Sex, majority 52 (52%) are Females. With regard to educational status, majority 91(91%) were educated.

TABLE 1b**DISTRIBUTION OF ADULT PATIENTS BASED ON THE DEMOGRAPHIC
VARIABLES****N= 100**

S.No	Demographic Variables	No	%
4	Work Pattern		
	Sedentary worker	21	21
	Moderate worker	62	62
	Heavy worker	17	17
5	Income		
	Below poverty line (< 24,000/ annum)	47	47
	Above poverty line (> 24,000 / annum)	53	53
6	Area of living		
	Rural	26	26
	Urban	74	74

Table 1b shows among 100 adult patients, in connection with work pattern majority 62 (62%) were moderate worker. The income reveals majority 53(53%) were earning above 24,000/ annum. Regarding area of living majority 74 (74%) resides in urban.

TABLE 2a

DISTRIBUTION OF ADULT PATIENTS BASED ON THE CLINICAL PROFILE

N=100

S.No	Clinical Profile	No	%
1.	BMI		
	Underweight (15- 18.4)	5	5
	Normal (18.5- 22.9)	54	54
	Over Weight (23- 27.5)	31	31
	Obese (27.6- 40)	10	10
2.	Waist - Hip Ratio		
	In Male		
	Below normal (< 0.8)	1	1
	Normal (0.8 - 0.9)	29	29
	Obese (> 0.9)	18	18
	In Female		
	Below normal (< 0.7)	4	4
	Normal (0.7 - 0.8)	25	25
	Obese (> 0.8)	23	23

Table 2a shows that among 100 adult patients, BMI majority 54 (54%) were normal. Regarding waist- hip ratio in men majority 60 (60%) is at moderate risk. In connection with waist- hip ratio in women majority 48 (48%) is at moderate risk.

TABLE 2b**DISTRIBUTION OF ADULT PATIENTS BASED ON THE CLINICAL****PROFILE****N=100**

S.No	Clinical Profile	No	%
3	Type of Obesity		
	Central obesity	34	34
	Peripheral obesity	7	7
	Non- obese	59	59
4	Blood Pressure		
	Normal (90/60 - 119/ 79)	34	34
	Pre- hypertension (120/ 80- 139/ 89)	61	61
	Hypertension (> 140/90)	5	5

Table 2b shows among 100 adult patients, with regard to type of obesity 59 (59%) were non- obese. Regarding blood pressure, majority 61 (61%) is in pre-hypertensive stage.

FIGURE 2

LEVEL OF RISK FACTORS AMONG ADULT PATIENTS ON CAD

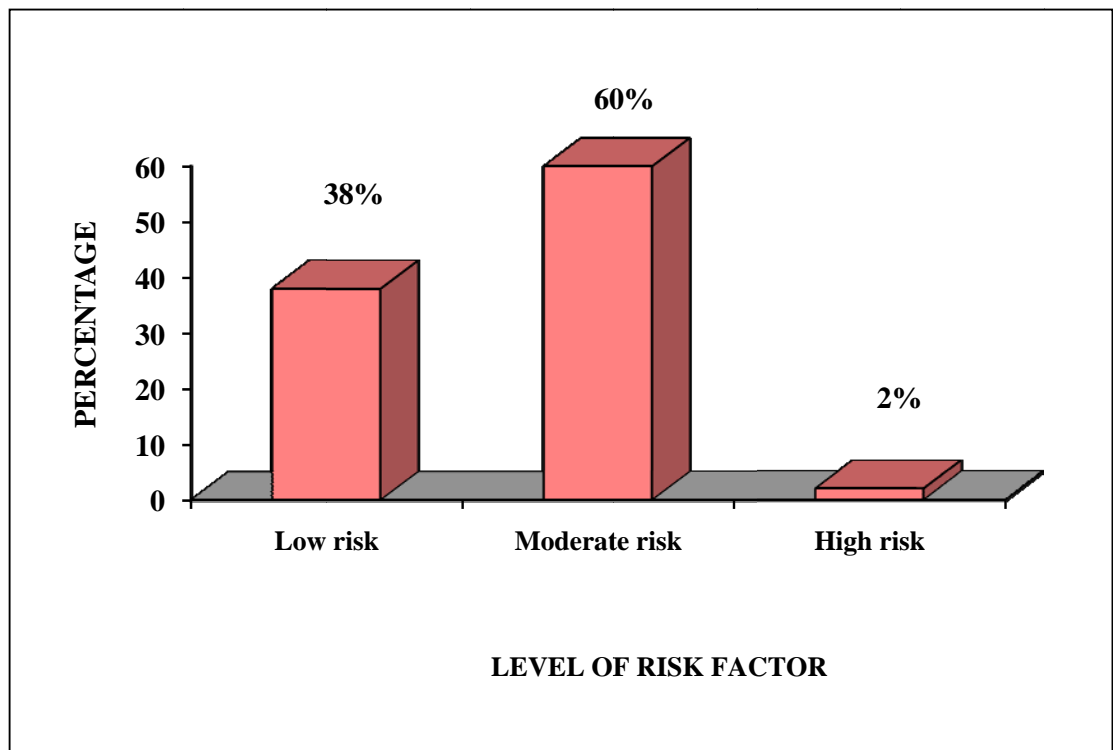


Figure 2 reveals among 100 adult patients, 38% are at Low risk, 60% are at Moderate risk and 2% are at High risk of CAD.

FIGURE 3

LEVEL OF KNOWLEDGE OF ADULT PATIENTS ON CAD

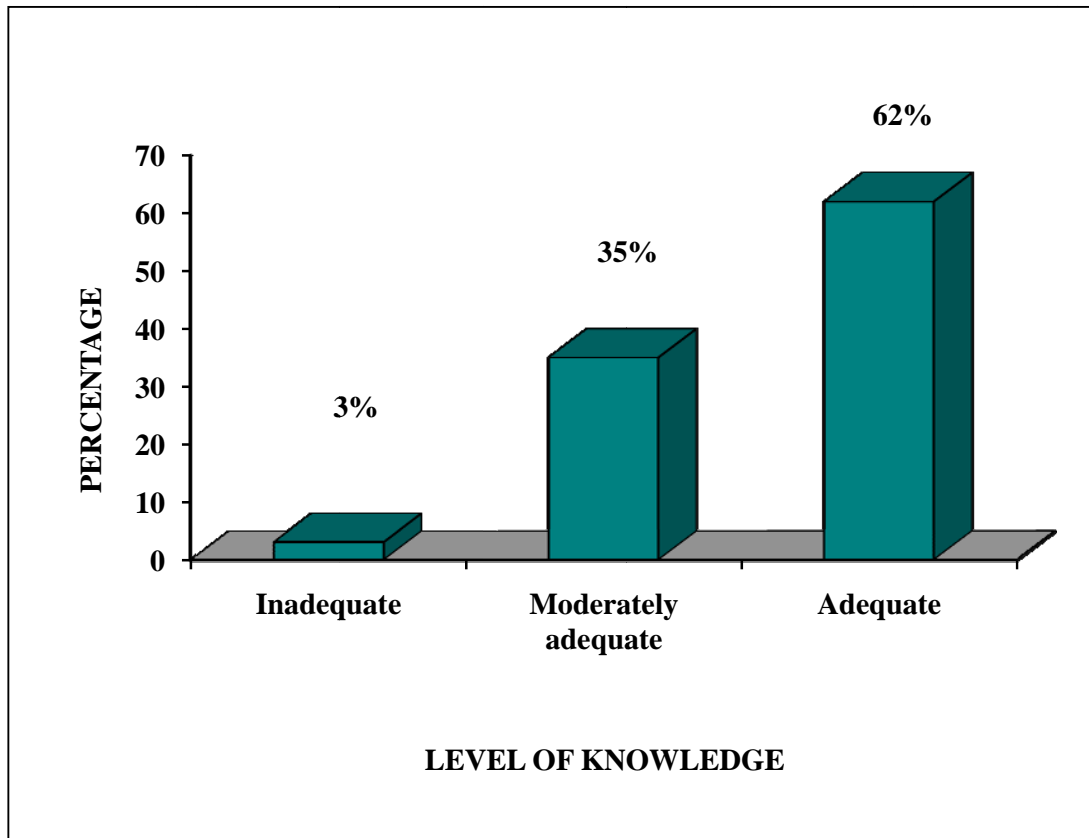


Figure 3 reveals among 100 adult patients only 3 (3%) had inadequate knowledge, 35 (35%) had moderately adequate knowledge and 62 (62%) had adequate knowledge on CAD.

FIGURE 4

LEVEL OF ATTITUDE OF ADULT PATIENTS ON CAD

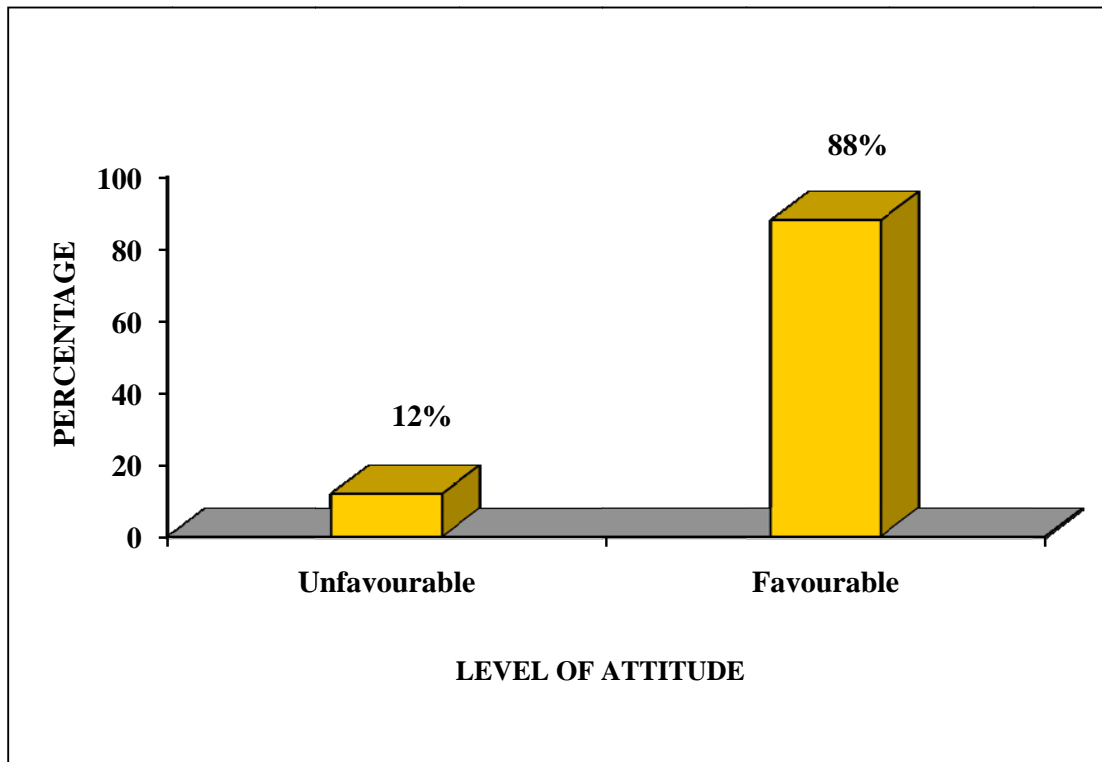


Figure 4 reveals among 100 adult patients, majority of adult patients 88 (88%) had favourable attitude and 12 (12%) had unfavourable attitude on CAD.

TABLE 3**CORRELATION BETWEEN RISK FACTORS AND KNOWLEDGE OF ADULT PATIENTS ON CAD**

N=100			
Variable	Mean	Standard deviation	“ r” value
Risk factors	6.22	1.856	-0.083
Knowledge	11.15	2.388	

Table 3 shows that the obtained Risk factors mean score was 6.22 with the standard deviation of 1.856. The obtained Knowledge mean score was 11.15 with the standard deviation of 2.388. The obtained “r” value was –0.083, which was negative correlation. It means when the risk factors decreases, the knowledge increases or vice versa and causes CAD.

It is inferred that there is significant relationship between risk factors and knowledge of adult patients on CAD.

TABLE 4**CORRELATION BETWEEN RISK FACTORS AND ATTITUDE OF ADULT PATIENTS ON CAD**

N=100			
Variable	Mean	Standard deviation	“ r” value
Risk factors	6.22	1.856	-0.033
Attitude	25.05	4.676	

Table 4 shows that the obtained Risk factors mean score was 6.22 with the standard deviation of 1.856. The obtained Attitude mean score was 25.05 with the standard deviation of 4.676. The obtained “r” value was –0.033, which was negative correlation. It means when the risk factors decreases, the Attitude increases or vice versa and causes CAD.

It is inferred that there is significant relationship between risk factors and Attitude of adult patients on CAD.

TABLE 5**CORRELATION BETWEEN KNOWLEDGE AND ATTITUDE OF ADULT PATIENTS ON CAD**

N=100			
Variable	Mean	Standard deviation	“ r” value
Knowledge	11.15	2.388	0.702
Attitude	25.05	4.676	

Table 5 shows that the obtained Knowledge mean score was 11.15 with the standard deviation of 2.388. The obtained Attitude mean score was 25.05 with the standard deviation of 4.676. The obtained “r” value was 0.702, which was highly positive and significant at 0.01 levels.

It is inferred that there is a significant relationship between Knowledge and Attitude of adult patients on CAD.

TABLE 6a

**ASSOCIATION OF RISK FACTORS WITH THE SELECTED
DEMOGRAPHIC VARIABLES**

					N=100
S.No	Demographic variable	Low risk	Moderate risk	High risk	χ^2
1.	Age				
	20-30Yrs	18	12	-	15.28**
	31-40 yrs	12	15	-	
	41-50 yrs	5	8	1	
	51-60 yrs	3	15	1	
2.	Sex				
	Male	14	33	1	3.076#
	Female	24	27	1	
3.	Educational status				
	Educated	36	53	2	1.367#
	Un-educated	2	7	-	

** Significant at 0.01 % level

Not significant at 0.05 % level

Table 6a shows that the obtained chi-square value 15.28** ($P < 0.01$) showed significant association between Age and Risk factors of CAD. The obtained chi-square value 3.076# ($P > 0.05$) showed no significant association between Sex and Risk factors of CAD. The obtained chi-square value 1.367# ($P > 0.05$) showed no significant association between Educational status and Risk factors of CAD.

TABLE 6b

**ASSOCIATION OF RISK FACTORS WITH THE SELECTED
DEMOGRAPHIC VARIABLES**

					N=100
S.No	Demographic variable	Low risk	Moderate risk	High risk	χ^2
4.	Work pattern				
	Sedentary worker	4	17	0	
	Moderate worker	28	32	2	6.41#
	Heavy worker	6	11	0	
5.	Income				
	Above poverty line	22	23	2	
	Below poverty line	16	37	0	5.87#
6.	Area of living				
	Rural	12	13	1	
	Urban	26	47	1	1.799#

Not significant at 0.05% level

Table 6b shows that the obtained chi-square value 6.41# ($P > 0.05$) showed no significant association between Work pattern and Risk factors of CAD. The obtained chi-square value 5.87# ($P > 0.05$) showed no significant association between Income and Risk factors of CAD. The obtained chi-square value 1.799# ($P > 0.05$) showed no significant association between Area of living and Risk factors of CAD.

TABLE 7a

**ASSOCIATION OF KNOWLEDGE WITH THE SELECTED
DEMOGRAPHIC VARIABLES**

N = 100

S.No	Demographic variables	Inadequate	Moderately adequate	Adequate	χ^2
1.	Age				
	20-30Yrs	0	13	17	
	31-40 yrs	1	6	20	13.83*
	41-50 yrs	0	13	11	
	51-60 yrs	2	3	14	
2.	Sex				
	Male	1	18	29	
	Female	2	17	33	0.461#
3.	Educational status				
	Educated	1	29	61	
	Un-educated	2	6	1	19.15***

*Significant at 0.05% level.

*** Significant at 0.001% level.

Not significant at 0.05% level.

Table 7a shows that the obtained chi-square value 13.83* ($P < 0.05$) showed significant association between Age and Knowledge on CAD. The obtained chi-square value 0.461# ($P > 0.05$) showed no significant association between Sex and Knowledge on CAD. The obtained chi-square value 19.15*** ($P < 0.001$) showed significant association between Educational status and Knowledge on CAD.

TABLE 7b

**ASSOCIATION OF KNOWLEDGE WITH THE SELECTED
DEMOGRAPHIC VARIABLES**

					N = 100
S.No	Demographic variables	Inadequate	Moderately adequate	Adequate	χ^2
4.	Work pattern				
	Sedentary worker	0	5	16	
	Moderate worker	2	21	39	5.328#
	Heavy worker	1	9	7	
5.	Area of living				
	Rural	2	14	10	
	Urban	1	21	52	9.284#

Not significant at 0.05% level.

Table 7b shows that the obtained chi-square value 5.328# ($P > 0.05$) showed significant association between work pattern and Knowledge on CAD. The obtained chi-square value 9.284# ($P > 0.05$) showed no significant association between Area of living and Knowledge on CAD.

TABLE 8a

**ASSOCIATION OF ATTITUDE WITH THE SELECTED DEMOGRAPHIC
VARIABLES** **N = 100**

S.No	Demographic variable	Unfavourable	Favourable	χ^2
1.	Age			
	20-30Yrs	2	28	
	31-40 yrs	2	25	3.379#
	41-50 yrs	5	19	
	51-60 yrs	3	16	
2.	Sex			
	Male	4	44	
	Female	8	44	1.175#
3.	Educational status			
	Educated	8	83	
	Un-educated	4	5	9.86**

** Significant at 0.01% level.

Not significant at 0.05% level.

Table 8a shows that the obtained chi-square value 3.379# ($P > 0.05$) showed no significant association between Age and Attitude on CAD. The obtained chi-square value 1.175# ($P > 0.05$) showed no significant association between Sex and Attitude on CAD. The obtained chi-square value 9.86** ($P < 0.01$) showed significant association between Educational status and Attitude on CAD.

TABLE 8b
ASSOCIATION OF ATTITUDE WITH THE SELECTED DEMOGRAPHIC
VARIABLES

N = 100

S.No	Demographic variable	Unfavourable	Favourable	χ^2
4.	Work pattern			
	Sedentary worker	1	20	
	Moderate worker	7	55	3.211#
	Heavy worker	4	13	
5.	Area of living			
	Rural	6	20	
	Urban	20	68	4.08*

*Significant at 0.05% level.

Not significant at 0.05% level.

Table 8b shows that the obtained chi-square value 3.211# ($P > 0.05$) showed no significant association between Work pattern and Attitude on CAD. The obtained chi-square value 4.08* ($P < 0.05$) showed significant association between Area of living and Attitude on CAD.

CHAPTER- V

DISCUSSION

This chapter deals with the discussion and interpretation of the findings to assess and correlate the Risk factors, Knowledge and Attitude on CAD among adult patients.

The discussion was based on the objectives specified in this study.

The first objective of this study was to screen the risk factors of CAD among adult patients.

The study findings showed that among adult patients 38% are at Low risk, 60% are at Moderate risk and 2% are at high risk of developing CAD. The prevalence of risk factors in this population were overweight (31%), obese (10%), waist-hip ratio in men (38%), waist-hip ratio in women (44%), central obesity (34%), peripheral obesity (7%), pre hypertension (61%) , hypertension (5%), smoking (18%), alcoholism(14%) , tobacco (3%), stress at work place (78%) and stress at home (81%).

These findings were consistent with a study done by Agarwal. VK et.al (2006), regarding prevalence of coronary artery disease risk factors among people of 30 years and above. Prevalence of smoking and tobacco use was 16%, alcohol intake 9.4%, overweight 18%, obese 3.2%, truncal obesity 18.5%, abdominal obesity 15.7%, hypertension 33.5%.

Thus the study results shows that among adult patients majority 60% are at moderate risk and they need to be given education regarding CAD.

The second objective of this study was to assess the knowledge and attitude on CAD among adult patients.

The study findings showed that knowledge among adult patients on CAD were 2% had inadequate knowledge, 35% had moderately adequate knowledge and 62% had adequate knowledge. Majority of the adult patients had favourable attitude (88%),

and 12% had unfavourable attitude. It shows that majority of the adult patients have adequate knowledge and favourable attitude on CAD.

These findings were consistent with a study conducted by **Aysa et.al** (2005) regarding knowledge of coronary artery disease risk factors among University students age group of 20 years + 2 years. 65% students thought that heart diseases are the number one cause of death in our population. 25% students graded smoking as the top most risk factor of CAD.

These findings also were consistent with a study conducted by **Azhar Farooqia et.al** (2000) on attitude to risk factors of coronary artery disease amongst South Asians aged over 40 years. Barriers to improving lifestyle with respect to diet, exercise were identified. Participants perceived stress as an important cause of CAD.

Hence the study result shows that among adult patients majority 62% had adequate knowledge and 88% had favourable attitude and the researcher would like to improve their knowledge and attitude regarding CAD.

The third objective of this study was to correlate risk factors of CAD with knowledge and attitude among adult patients.

The obtained Risk factors mean score was 6.22 with the standard deviation of 1.856. The obtained Knowledge mean score was 11.15 with the standard deviation of 2.388. The obtained “r” value was -0.083, which was negative correlation. It means when the risk factors decreases, the knowledge increases or vice versa and causes CAD.

It is inferred that there is significant relationship between risk factors and knowledge of adult patients on CAD.

The obtained Risk factors mean score was 6.22 with the standard deviation of 1.856. The obtained Attitude mean score was 25.05 with the standard deviation of 4.676. The obtained “r” value was -0.033, which was negative correlation. It means when the risk factors decreases, the Attitude increases or vice versa and causes CAD.

It is inferred that there is significant relationship between risk factors and Attitude of adult patients on CAD.

The obtained Knowledge mean score was 11.15 with the standard deviation of 2.388. The obtained Attitude mean score was 25.05 with the standard deviation of 4.676. The obtained “r” value was 0.702, which was highly positive and significant at 0.01 levels.

It is inferred that there is a significant relationship between Knowledge and Attitude of adult patients on CAD.

These findings were supported by the study done by **Rosanne Crouch** (2008) regarding Perception, Knowledge and awareness of CAD among Australian Women 25 to 65 years of age. The results of this study found women’s overall knowledge of heart disease was good and this knowledge relate to positive action to minimise their own risks.

Thus the study results shows adequate knowledge and favourable attitude ultimately decrease the risk of CAD.

The fourth objective of this study was to find the association between risk factors of CAD with selected demographic variables among adult patients

There was a significant association between age and risk factors of CAD among adult patients ($\chi^2 = 15.28$). There was no significant association between sex and risk factors of CAD among adult patients ($\chi^2 = 3.076$). There was no significant association between educational status and risk factors of CAD among adult patients ($\chi^2 = 1.367$).

There was no significant association between work pattern and risk factors of CAD among adult patients ($\chi^2 = 6.41$). There was no significant association between income and risk factors of CAD among adult patients ($\chi^2 = 5.87$). There was no significant association between area of living and risk factors of CAD among adult patients ($\chi^2 = 1.799$).

These findings were consistent with a study conducted by **Akabueze. J** regarding prevalence of cardiovascular risk factors in the middle aged and elderly population of a Nigerian rural community. The study findings shows prevalence of cardio vascular risk factors was highest in subjects aged above 60 years.

Thus the study result shows that there is on influence of risk factors with the age of adult patients and the researcher would like to insist the lifestyle modifications from the childhood in order to prevent the risk of CAD.

The fifth objective of this study was to find the association between knowledge and attitude on CAD with selected demographic variables among adult patients

There was a significant association between age and knowledge on CAD among adult patients ($\chi^2 = 13.83$). There was no significant association between sex and knowledge on CAD among adult patients ($\chi^2 = 0.461$). There was a significant association between educational status and knowledge on CAD among adult patients ($\chi^2 = 19.15$).

There was no significant association between work pattern and knowledge on CAD among adult patients ($\chi^2 = 5.328$). There was no significant association between area of living and knowledge on CAD among adult patients ($\chi^2 = 9.284$).

There was no significant association between age and attitude on CAD among adult patients ($\chi^2 = 3.379$). There was no significant association between sex and attitude on CAD among adult patients ($\chi^2 = 1.175$). There was a significant association between educational status and attitude on CAD among adult patients ($\chi^2 = 9.86$).

There was no significant association between work pattern and attitude on CAD among adult patients ($\chi^2 = 3.211$). There was a significant association between area of living and attitude on CAD among adult patients ($\chi^2 = 4.08$).

These findings were consistent with a study conducted by **Abdulla S. Assiri** regarding Knowledge about Coronary artery disease among patients admitted to Aseer hospital, Saudi Arabia. The findings of this study shows level of knowledge and education play a vital role in preventing the occurrence of CAD. And also the study findings showed that elderly people had low knowledge compared to those aged less than 60 years.

Thus the study result shows that there is on influence of knowledge and attitude with the adult patient's educational status, and age. So the researcher felt the need for the administration of SIM and implemented the same in order to improve the knowledge and attitude.

LIMITATIONS

1. Study is limited in assessing the risk factors of CAD by questionnaire.
2. Study is limited in assessing the knowledge on CAD by questionnaire.
3. Study is limited to the adult patients who have admitted in the Christian Mission Hospital, Madurai.

CHAPTER – VI

SUMMARY AND RECOMMENDATIONS

The essence of any research project lies in reporting the findings. This chapter gives a brief account of the present study including conclusion drawn from the findings, recommendations, limitations of the study, suggestion for further studies and nursing implications.

SUMMARY OF THE STUDY

The focus of the study was to assess and correlate the risk factors with knowledge and attitude among adult patients on CAD.

The study was descriptive in nature. Study was conducted for a period of 6 weeks in Christian Mission Hospital, Madurai based on inclusion criteria, and 100 adult patients were interviewed. The questions were related to risk factors, knowledge and attitude on CAD.

Study was based on Becker and Maiman's Health Belief model. It provides a comprehensive systematic framework for identifying perception, beliefs, behaviour among adult patients on CAD. Descriptive and inferential statistical test were used to report the findings.

MAIN FINDINGS OF THE STUDY

Only 2% had high risk, 60% had moderate risk and 38% had low risk. It shows only few adult patients have high risk on CAD.

Majority (62%) of adult patients had adequate knowledge, 35% had moderately adequate knowledge and 3% had inadequate knowledge. It shows majority of adult patients have got adequate knowledge on CAD.

Majority (88%) of adult patients had favourable attitude and 12% had unfavourable attitude. It shows majority of adult patients have got favourable attitude on CAD.

There was a significant association between age and risk factors of CAD. There was no significant association of risk factors regarding CAD with the selected demographic variables such as sex, educational status, work pattern, income, and area of living.

There was a significant association of knowledge regarding CAD with the selected demographic variables such as age, education. There was no significant association of knowledge regarding CAD with the selected demographic variables such as sex, work pattern and area of living.

There was a significant association of attitude regarding CAD with the selected demographic variables such as education, and area of living. There was no significant association of attitude regarding CAD with the selected demographic variables such as age, sex, and work pattern.

The obtained Risk factors mean score was 6.22 with the standard deviation of 1.856. The obtained Knowledge mean score was 11.15 with the standard deviation of 2.388. The obtained “r” value was -0.083 , which was negative correlation. It means when the risk factors decreases, the knowledge increases or vice versa and causes CAD.

It is inferred that there is significant relationship between risk factors and knowledge of adult patients on CAD.

The obtained Risk factors mean score was 6.22 with the standard deviation of 1.856. The obtained Attitude mean score was 25.05 with the standard deviation of 4.676. The obtained “r” value was -0.033 , which was negative correlation. It means when the risk factors decreases, the Attitude increases or vice versa and causes CAD.

It is inferred that there is significant relationship between risk factors and Attitude of adult patients on CAD.

The obtained Knowledge mean score was 11.15 with the standard deviation of 2.388. The obtained Attitude mean score was 25.05 with the standard deviation of 4.676. The obtained “r” value was 0.702, which was highly positive and significant at 0.01 levels.

It is inferred that there is a significant relationship between Knowledge and Attitude of adult patients on CAD.

CONCLUSION

To sum up, majority of the adult patients in the age group of 20- 30 years, females, educated, moderate worker, below poverty line (Rs. 24,000 / annum), residing at urban. Only few adult patients have high risk on CAD. The knowledge regarding CAD was adequate among adult patients. The attitude also showed the majority of the adult patients had favourable attitude regarding CAD.

There was a significant association between age and risk factors of CAD. There was a significant association of knowledge regarding CAD with the selected demographic variables such as age, education.

There was a significant association of attitude regarding CAD with the selected demographic variables such as education, and area of living.

Learning module was prepared and distributed to the adult patients after the data collection on CAD. This study emphasized that learning module will score for a quick reference and enable the adult patients to be more aware about the CAD.

IMPLICATIONS

The implication of the findings has been discussed in relation to nursing service, nursing education, nursing administration and nursing research.

IMPLICATIONS IN NURSING PRACTICE

1. The result of the study will create awareness and motivate the adults to practice CAD prevention guidelines effectively.

2. Nurses in the clinical settings should practice health education as an integral part of the nursing profession.
3. Planned health teaching programme are to be scheduled on fixed days with time for the patient as well as to family members.
4. Small booklets are to be provided to the patients in understandable language with appropriate pictures to improve their knowledge and lifestyle practices.

IMPLICATIONS IN NURSING EDUCATION

1. In- service education should be provided to nursing personnel at various levels to improve their knowledge on prevention of CAD.
2. There should be more emphasis on the nursing curriculum about current concepts and trends regarding prevention of CAD.
3. The nursing students should be motivated to teach and practice CAD prevention guidelines during their clinical postings.
4. This study will encourage nurse administrator to arrange for conference and seminars related to prevention of CAD.
5. Pamphlets, handouts and booklets should be kept in ward and outpatient department regarding prevention of CAD.

IMPLICATIONS IN NURSING RESEARCH

1. The findings of the study served as a basis of the nursing personnel in increasing awareness on prevention of CAD among adult patients.
2. The study can be published in journals to disseminate knowledge regarding prevention of CAD.
3. The findings of the study served as a basis for the nursing professionals and students to conduct further studies.
4. The findings of the study serves basis of the community health nurse in increasing the awareness on prevention of CAD among adults.

IMPLICATIONS IN NURSING ADMINISTRATION

1. The study can assist the nursing administration authorities to initiate and carry out in- service education to nursing personnel at various levels.
2. The nursing administration should take active part in policy making, developing protocol, procedures related to prevention of CAD.

3. Nursing administration should give special attention on the proper selection, placement, and effective utilization of various categories of nursing personnel for their creativity, interest, ability in educating patient care.
4. Extensive use of mass media propaganda can help in prevention of CAD.

RECOMMENDATIONS

1. A similar study can be undertaken on a large scale for making a more valid generalization.
2. A comparative study can be conducted on risk status of CAD between men and women.
3. A comparative study can be conducted on knowledge and practice regarding CAD between urban and rural community.
4. Quasi- Experimental study can be conducted with structured instructional module on knowledge and attitude regarding CAD among adults.
5. Experimental study can be conducted on effectiveness of protocols on prevention of CAD.

é. †Č□β ζ°£Čù óČ¢łó□:-

- ❖ üç≤üč┐
- ❖ ÅÆóÔö± ēí §°Ê©± ćłμ,
ĆüÅÆóÔö± íí §°Ê©± ćłμ
- ❖ ÅÆóŲ ĄjótČó
üČjćóú%ªřßœ¥



- ❖ Çøðøðµ Ć_πCÖ±√ Äŋĭ ÄjôΔØøµ
- ❖ Êç_{π±} ü•öó
- ❖ †Ê± ü•öó
- ❖ Ñ°¥ Çøðø ÄÓØù
- ❖ ô¥öóç | çŁčž
- ❖ ‡çĭ ŠCÖ Nõµ Nčĭ ±Ê
- ❖ Nõµ ũŧĭ

[illegible]

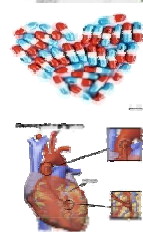
- ❖ ርዕሱን ያደርግ ማዕፀዎ
- ❖ ደግሞ ስህተት ርህሮ
- ❖ ደግሞ-
- ❖ ሀገራዊ ሰርዓተ ልማት ርዕሮ
- ❖ ሰርዓተ ልማት ርዕሮ ስህተት ርዕሮ
- ❖ ለግል ርዕሮ
- ❖ ሰርዓተ ልማት ርህሮ



- ❖ $\hat{t}^{\infty}\hat{E}o\Box$
- ❖ $\zeta\phi\emptyset\cup\odot\pm\cdot\check{C}\geq o\Box -\phi\check{c}\ll\pm\ddot{E}$

(Å"ΩćŒ Č√ŒČFø)

- ❖ $\zeta^{\circ} \zeta^{\circ} \square^{\circ} \check{c}_{\pi} \hat{u} \check{C} \eta \check{A} \check{O} \check{c} \parallel \Omega^a \check{c} \eta$
 $(\check{c}^{\perp} \hat{u} \check{C} \check{F} \check{A} \check{O} \check{c} \parallel \Omega^a \check{c} \eta)$



é. Núi Ěč| ó□

- ✓ ü'čǝ © óČžóĂó□
- ✓ ü•™ó□
- ✓ ùČǾ°™ó□
- ✓ üî±Ě §šŕó□

[illegible]

- $i \in \Sigma \text{ f} \cup \{ \text{Q} \} \quad \text{N} \emptyset \cup \Sigma = \emptyset \quad \text{Q} \emptyset \text{ c} \parallel$
 $\text{C} \neq \Sigma \cup \{ \text{E} \} \quad \text{C} \in \text{C} \in \text{O} \cup \text{O} \cup \text{M} \quad \text{N} \cap \Pi$
 $\text{C} \neq \text{C} \cup \{ \text{V} \} \quad \text{A} \cap \Pi \quad \text{t} \in \{ \text{B} \} \text{E}.$
- $\text{N} \emptyset \cup \Sigma = \emptyset \quad \text{C} \neq \text{z} \in \text{C} \quad \text{C} \in \text{O} \text{E} \text{ ; } \parallel$
 $\% \text{O} \Sigma \cup \text{N} \quad \text{O} \neq \text{t} \text{ , } \text{u} \in \{ \parallel \} \quad \parallel \Sigma \cup \text{ ,}$
 $\Sigma \text{ , } \text{C} \in \text{O} \cup \{ \parallel \} \quad \text{t} \in \text{C} \in \text{O} \text{C} \emptyset$
 $\text{o} \in \{ \parallel \} \cup \{ \text{C} \} = \text{I} \emptyset \cup \text{M} \quad \text{t} \in \text{O} \text{S} \in \text{C} \text{L} \parallel \Sigma \ll$
 $\in \text{L} \text{C} \parallel \text{O} \text{t} \in \text{C} \in \text{C} \cup \text{M} \quad \text{t} \in \text{O} \text{E} \Sigma \text{O} \text{S}$
 $\text{A} \in \{ \parallel \} \text{C} \in \text{O} \text{C} \neq \text{C} \in \text{I} \text{S}.$
- $i \in \Sigma \text{E} \quad \text{u} \in \Pi \cup \Sigma = \emptyset \quad \text{O} \text{C} \parallel \quad \text{c} \parallel \quad \text{C} \neq \Pi \text{C} \neq \% \quad \text{O} \neq \text{E} \quad \text{O} \neq \text{u} \text{C} \emptyset$
 $\text{u} = \emptyset \quad \text{O} \text{C} \parallel \quad \text{A} \neq \text{O} \Delta \text{C} \in \text{O} \in \{ \parallel \} \neq \% \text{O} \text{S}.$
- $\text{o} \emptyset \text{t} \in \text{C} \in \text{O} \quad \text{c} \in \{ \parallel \} \text{O} \cap \text{t} \in \text{O} \text{S} \in \text{u} \text{O} \text{C} \neq \text{t} \cup \text{M} \quad \text{c} \in \text{C} \neq \text{I} \text{S} \Sigma \text{O} \text{C} \parallel \quad \text{u} \neq \% \text{O} \text{S}$
 $\text{C} \in \{ \parallel \} \neq \% \text{O} \text{S}.$
- $\text{o} \text{C} \neq \text{V} \neq \text{O} \quad \text{N} \emptyset \text{I} \quad \text{N} \emptyset \cup \Sigma = \emptyset \quad \text{O} \text{C} \parallel \quad \text{u} \neq \% \text{O} \text{S} \quad \text{C} \in \{ \parallel \} \neq \% \text{O} \text{S}.$
- $\text{c} \in \{ \parallel \} \text{O} \text{O} \in \text{O} \text{C} \neq \text{t} \approx \text{u} \quad \text{a} \geq \text{I} \quad \text{u} \text{O} \text{C} \in \text{O} \text{S} \quad \text{C} \in \{ \parallel \} \neq \% \text{O} \text{S}.$



- > Eč_π ± ū • ○ ≤ Ćŭ° ũČŋ ēŁĆ=ŋ »øøēŁ
ĀjōΔ○āĴÊ.
- > Êč_π± ū • ○ōŏj•RČm Çøøũ○ ‡•ČōÅm
‡ĵ•ČŖÊ Nč||∞Ê Ćŭ°øj□‡ Čŋµ≤.
Çøøũøj Åŋ|| ‡ē|| āĴÊ.

[illegible]